AMERICAN BEE JOURNAL

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September, 1945

CONTAINERS

A Complete Line—
Priced Right

Tin

5 and 10 lb. Friction Top.
5 gal. Square, bulk or cased.

Glass

16 oz., 20 oz., 32 oz., 44 oz. and 5 lb.

Comb Honey

Cartons.
Cellophane Wrappers.
Shipping Cases.

Carloads in stock.
Write for complete price list.
For the best service order from

•

THE A. I. ROOT CO. OF IOWA
COUNCIL BLUFFS, IOWA

HONEY CONTAINERS

We have a complete line of "Utility" style jars with white coated covers, lacquered, and wax-paper lined.

10-lb. jars per case 4	$ .45
5-lb. jars per case 6	.42
2-lb. jars per case 12	.42
1-lb. jars per case 24	.73
½-lb. jars per case 24	.67
½-lb. jars per case 48	1.28
5-lb. tin pails per carton 50	3.35
10-lb. tin pails per carton 50	4.95

Standard square American cans, well seamed and soldered with 2½ inch screw cap wax-board lined.

Box of 2, 60-lb. cans	$1.00
Carton of 24, 60-lb. cans	7.44
60-lb. cans in bulk, each	.32

We also carry a full stock of other honey packages, comb honey cartons and wrappers.

5% discount on tin and glass orders of $50.00.
10% discount on tin and glass orders of $100.00.

August Lotz Company

Manufacturers and Jobbers
of Bee Supplies
BOYD, WISCONSIN

YORK'S

Package Bees and Queens

•

Quality Bred Italians

•

2-LB. PACKAGES OF BEES WITH QUEENS, $4.25 EACH, ANY NUMBER

3-LB. PACKAGES OF BEES WITH QUEENS, $5.25 EACH, ANY NUMBER

YOUNG LAYING QUEENS, $1.25 EACH, ANY NUMBER

TESTED QUEENS $2.50 EACH, ANY NUMBER

QUEENLESS PACKAGES, deduct $1.10 per pkg.

Quality and Service on any size order. No cheap bees or queens, only the best is our motto. Booking orders for 1946, same terms, subject to later revised prices.

•

YORK BEE COMPANY

Jesup, Ga., U. S. A.

(The Universal Apiaries)

ITALIAN

Queens Queens Queens Queens

•

Daughters from Queens

That have stood the test in our 11,000 colony units in the North, and we know they will please you.

Now is the time to head your colony with good young queens that will make wintering better, will give you better colonies in the spring. Also save swarming and insure better crop next spring.

GOOD QUEENS OUR SPECIALTY

Try our queens, try our service. All queens mailed within 24 hours after order is received. No extra charge for clipping. Safe arrival guaranteed.

Queens	1 to 24	25 to 49	50 to 100
	$1.25	$1.20	$1.15

15% from the above prices balance of season

•

Tanquary Honey Farms

(Inc.)

Lena, South Carolina

GET TOP PRICES FOR HONEY...

Now and After the War

H. J. HEINZ COMPANY—makers of the famous 57 Varieties—is in the honey business, with a nation-wide organization and merchandising experience, *to market millions of pounds of honey annually*—now and after the war.

If you want to continue getting top prices for your honey, when sugar rationing ends—

If you want to establish a *permanent* and *profitable* outlet for your honey production—

We Suggest That You Sell Us Part of Your Honey Crop

We need volume—and we pay the top prices. We can help you and all concerned in the honey industry, if you co-operate. Let's get together!

---CLIP AND MAIL THIS COUPON TODAY!---

H. J. HEINZ COMPANY, Dept. AB-9
Pittsburgh, Pa.

I expect to produce_____ lbs. of honey in 1945. It will be ready about_____

Name_____

City_____

State_____

Sending in this coupon does not obligate me in any way.

REQUEEN WITH 3-BAND ITALIAN QUEENS
of Highest Quality

My breeders are tested for honey producing qualities, nonswarming, long life and gentle, pure mating guaranteed.

	1 to 3	4 to 24	25 and up
Young laying queens	$ .85	$ .80	$ .75
Young tested queens	1.70	1.60	1.50

PLENTY QUEENS FOR IMMEDIATE SHIPMENT

E. R. RALEY, 710 W. Altamaha St., Fitzgerald, Ga.

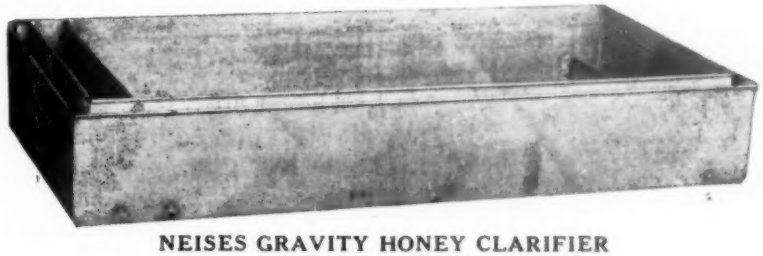
STANDARDIZE

Your colonies now with our queens bred from 3-Banded Italians. Northern stock of proven quality.

$1.10

Accepting orders of 1946 packages that will be shipped on time

WICHT APIARIES
406 Miller Street : Hattiesburg, Miss.



NEISES GRAVITY HONEY CLARIFIER
(Decanter Tank)

AS QUALITY OF PRODUCT IS ALWAYS THE MOST IMPORTANT FACTOR THE

NEISES GRAVITY CLARIFIER AND FILTER

were designed to do a better job of preparing your honey for market.

TODAY WHEN TIME COUNTS MOST

It will pay for itself in time saved in your honey processing operations. For further information write

REUBEN NEISES : 908 S. Cherry St. : Marshfield, Wis.

Beekeepers Magazine

Serving the Honey Producers of America

Subscribe now at $1.00 per year. Subscription rate advances to $1.50 January 1, 1946. Copy current issue 10c.

RT. 5, BOX 181 LANSING, MICHIGAN

FOR SALE

BRIGHT YELLOW AND THREE BAND QUEENS

GRAYDON BROS.

RT. 2 GREENVILLE, ALA.

NORTHERN BRED
LEATHER COLORED

ITALIAN QUEENS

Daughters of stock bred for resistance (our own strain) $1.00 each—25 or more 90 cents each.

DIEMER BEE CO.

RT. 2, BOX 7 LIBERTY, MO.

H-A Honey Jars move your product from shelf to home.

HAZEL-ATLAS GLASS COMPANY

WHEELING, W. VA.

QUEENS, Gentle Leather Italians

ALL BREEDERS NORTHERN RECORD PRODUCERS.

Our system of holding queens in large two frame nuclei until egg laying ability is proven, assures you of the finest queens to be had at any price.

1 to 50, $1.25 51 to 100, $1.20 101 up $1.05

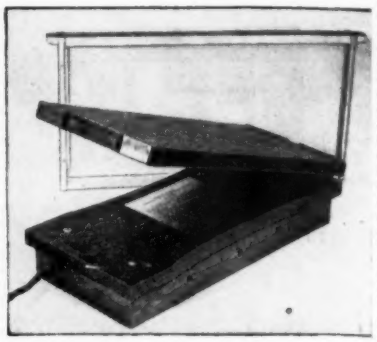
We are booking orders for 1946 bees, subject to price agreement in November. 10% deposit required by November 15th.

The Rich Honey Farms

New Iberia, Louisiana

POST OFFICE, JEANERETTE, LOUISIANA

The American Bee Journal Classified Ads Bring Results



Carpenter's Electric Embedder

PATENT PENDING

"Better Bee-Havior"

COPYR.

"It's Complete, It's Simple,
It's Speedy, It's Accurate"

This machine embeds all four wires at once evenly, and handles crimp-wired foundation.

Terms, $7.50 Cash, f. o. b. Riverside. Dealers very satisfactory discounts. Shipping wt. approximately 5½ lbs.

G. A. CARPENTER

4266 Homewood Court

RIVERSIDE, CALIFORNIA

MOORE'S STRAIN

Away back in 1879 I commenced rearing Italian queens with the object of improvement constantly in view.

By careful selection during all these years I have succeeded in producing a strain of three-banded, leather-colored Italian bees, known as MOORE'S STRAIN OF ITALIANS, which has won a world-wide reputation for honey-gathering, hardiness, gentleness, etc. Send for descriptive circular and read reports from those who have tried them.

Untested Queens, $1.25 each; 6 for $7.00; 12 or more, 1.00 each.

J. P. MOORE, R. 3, Falmouth, Ky

Former address, Morgan, Ky., U. S. A.
Safe arrival and satisfaction guaranteed

NOTICE

We can't accept any more orders for shipment this season. We wish to thank our customers for their orders and many nice letters. To the orders rejected please accept our regret. Will accept orders for next spring delivery at previous prices.

O. K. ANDERSON & SON

COFFEE SPRINGS, ALABAMA

VIGOROUS, PRODUCTIVE QUEENS

THREE-BANDED ITALIANS

Any Number $1.00 each

W. E. PLANT Hattiesburg, Rt. 2, Mississippi

BLUE RIBBON
Package Bees
"BEST IN THE WEST"
THOS. C. BURLESON, COLUSA, CALIF.

WANTED Thousands of Rabbits and other Small Stock, Poultry and Birds, Let
"STANDARD RABBIT & PET JOURNAL"
Bring you the Monthly News of Rabbit, Cavy, Small Stock, Poultry, Birds and other Pets.
STANDARD RABBIT AND PET JOURNAL
Box 251 MILTON, PA.

ALL possible orders for this season have already been accepted. But remember next year; send your package and queen inquiries promptly for 1946. Get ready for another good season.
THE DANIELS APIARIES
PICAYUNE, MISSISSIPPI

QUEENS, Selected Italian Stock
I have been selling queens since World War I and I have hundreds of satisfied customers who have bought my queens each year for as many as 15 years. Satisfaction guaranteed. Price $1.10 each, postpaid.
West Branch Apiaries, Grover Hill 2, Ohio

NOTICE
Sold out on both queens and package bees for this season (1945). Thanks for your orders and cooperation.
BOLLING BEE CO., Bolling, Alabama

Bright 3-Banded Italian Queens
The kind that every beekeeper is proud to get. Gentle, good honey producers. Prices balance of season. 1 to 24, $1.10; 25 to 99, $1.00; 100 up $ .90.
TAYLOR APIARIES
LUVERNE, ALABAMA

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The Leading Bee Journal of the Southern Hemisphere is the
AUSTRALASIAN BEEKEEPER
Subscription 5 shillings per year, start any time. Enquire for International money order for 5 shillings (Australian) at your Post Office, Write now to The Editor, P. O. Box 20, West Maitland, New South Wales, Australia.

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DADANT'S FOUNDATION
FIRST CHOICE of EXPERT BEEKEEPERS

American Bee Journal

HAMILTON, ILLINOIS
September 1945 Vol. LXXXV, No. 9

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Package Bees and Queens
For Quality and Service
KOEHNEN'S APIARIES
GLENN, CALIFORNIA

MICHIGAN CLOVER HONEY WANTED
Buyer of MICHIGAN'S fine clover honey.
Michigan producers write me when you have some of this fine Michigan clover honey ready for the market. Can use your entire crop. Don't forget, and write.
TOWNSEND SALES COMPANY
E. D. Townsend Northstar, Michigan

The BEEKEEPERS ITEM
The Southern beekeepers' own magazine, but read by studious honey producers everywhere.

With the American Bee Journal makes a combination that covers the beekeeping field.
Send $1.75 and get Both Magazines for a year
BEEKEEPERS ITEM, San Antonio, Texas

Sunny Nook Apiaries
We wish to thank all of our many customers for their orders during the past season.
508 W. JEFFERSON STREET
STOUGHTON, WISCONSIN

ROOT QUALITY BEE SUPPLIES
GLASS AND TIN CONTAINERS
HONEY AND BEESWAX WANTED
M. J. BECK CO.
Successor to M. H. HUNT & SON
510 N. Cedar St., Lansing, Mich.

Caucasian Queens
FOR BALANCE OF 1945 SEASON AT 90 CENTS EACH
Howard M. Davis
RT. 7, BOX 3914
SACRAMENTO, CALIFORNIA

FIRST LESSONS IN BEEKEEPING by C. P. Dadant, (revised by M. G. and J. C. Dadant). A reliable guide to things you must know first about bees, hives, producing honey, etc. Suggests management for a few colonies, the small apiary. **$1.00.**

American Bee Journal
Hamilton, Illinois

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Middle Tennessee Apiaries : Leather Colored Italian Queens

From imported breeding stock. 1-25, $1.25 each. 26 or more $1.10 each. One-fourth books orders—balance before shipping. Add 5 cents for all queens by air mail.

ALL QUEENS AFTER JUNE 15TH $1.00 EACH

J. B. TATE & SON

1029 No. 4th St. Telephone 34509 M. NASHVILLE (7), TENNESSEE

CHOOSE LABELS WISELY

You can't go wrong with A-B-J Labels. They sell honey and are priced right. . . . Send for complete catalog

AMERICAN BEE JOURNAL . . HAMILTON, ILL.

RED STICK APIARIES & CO.

PACKAGE BEES — QUEENS

Twenty-four years as commercial queen breeders. Oldest combless package bee shippers in Louisiana. Special priority to returned veterans with empty equipment.

ITALIAN STOCK—RESISTANT STOCK—YOUR CHOICE

Quantity	Queens	2-Lbs.	3-Lbs.
1-24	$1.25	$4.00	$5.00
25-99	1.15	3.75	4.80

Terms: Remittance with order.

RED STICK APIARIES & CO.

Main Office, 125 Lessard St., Donaldsonville, Louisiana, Telegraph, Western Union

NEEDED SUPPLIES—HARD TO BUY (We Have Them)

No. 14—4 frame Non-Reversible Extractor, Hand Power	$14.75
No. 6—2 Frame Non-Reversible Extractor, Hand Power	11.75
10 Frame Wire Queen Excluders, Wood Bound, 5 or more, each	.80
25 Lb. Lots Thin Surplus Foundation (following sizes) 3⅞x16, 4½x16½, 4⅛x17¼, 3 11/16x14¼	19.75
25 Lb. Lots "Hercules" Plain Brood Foundation	17.50
25 Lb. Lots "Hercules" Wired Brood Foundation	18.50
Brood Foundation, Sizes 8x16¾ or 8½x16½.	
HAVE YOU TRIED "HERCULES" WIRED IRONSIDES FOUNDATION? WITHOUT A DOUBT THE BEST FOUNDATION ON THE MARKET	
100 Sheets $12.50 50 Sheets $6.50 10 Sheets $1.35	
8½x16½ ONLY	
2 Lb. Package Bees with Queen (untested-untreated	$ 3.50
3 Lb. Package Bees with Queen (untested-untreated)	4.50
1 Queen Bee, Ultra Violet Ray Treated, each	1.25
Wire Face Bee Veil, each	.80
Bee Escapes, each	.12
Smokers 4x7 each	1.00
2 Inch Hive Staples, per lb.	.30
COMB HONEY SECTIONS—	
No. 1 Grade, 4¼x4¼x1⅞, per 500	6.60
No. 2 Grade, 4¼x4¼x1⅞, per 500	5.90
No. 1 Grade, 4¼x4¼x1⅞, split 3 sides, per 500	7.10
Cellophane Wrappers for above sections, per 100 sheets	1.25
Cellophane Wrappers for above sections, per 500 sheets	5.50
1 Lb. Glass Honey Jars, packed 2 dozen, per case	1.00
2 Lb. Glass Honey Jars, packed 1 dozen, per case	.90
5 Lb. Glass Honey Jars, packed ½ dozen, per case	.55
5 Lb. Friction Top Cans, packed 50, per carton	3.75
10 Lb. Friction Top Cans, packed 50, per carton	5.00
Bee Gloves, per pair	.75

TERMS: CASH WITH ORDER, F. O. B. CINCINNATI

WE WILL BUY YOUR HONEY AND BEESWAX AND PAY THE CEILING PRICES

NO LOT TOO SMALL OR TOO LARGE. WRITE US.

We also render wax from your old comb or cappings and work wax into comb foundation. Write for our general price list.

THE FRED W. MUTH COMPANY 229 WALNUT STREET CINCINNATI, 2, OHIO

Better Bred Queens 3-Banded Italians

We are breeding from some record breaking queens, "better than ever." Rush orders filled promptly. Remainder of season, 75c each, any quantity.

CALVERT APIARIES Calvert, Alabama

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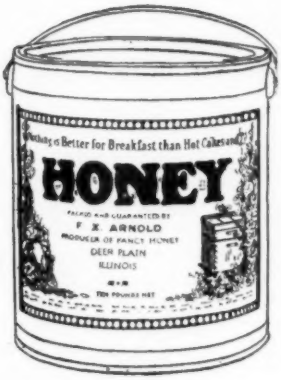
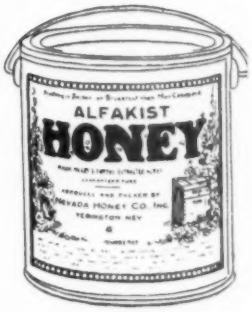
BUY BONDS

—AND—

HOLD THEM

• HONEY CONTAINERS •





Send for our catalog of labels for all your containers.

5 and 10 Lb. Pails With Bails Now Available

5 lb. size, 50 per carton $3.15
10 lb. size, 50 per carton 4.90

No bails with these jars.

Bails are not available

Glass Jars

Our jars are the "Victory" sytle round jars packed in substantial cartons equipped with lacquered paper lined caps. Shipment subject to stock.

PRICES

Case of 48— 8 oz. ____15 lbs.	$1.30 per case
Case of 24—16 oz. ____12 lbs.	.75 per case
Case of 12—32 oz. ____ 9 lbs.	.50 per case
Case of 12—48 oz. ____11 lbs.	.55 per case
Case of 6— 5 lb. (no bails) 10 lbs.	.42 per case
Case of 4—10 lb. (no bails) 13 lbs.	.45 per case

Window Carton

Comb Honey Wrappers and Cartons

The best and most economical wrapper on the market. Our revelation flat wrappers and bag wrappers are made with cellophane and waxed paper and printed attractively so as to make best possible display of comb honey. These wrappers are much cheaper than the all cellophane wrappers and more easily handled. For a strictly fancy product, the window cartons are of unusual value.

	100	500	100	500
649 Revelation style for 4¼ in. sections	1 lb.	4 lbs.	$ .90	$3.95
664 Revelation style for 4¼, unprinted	1 lb.	4 lbs.	.60	2.70
658 Bag style for 4¼x1⅞ sections (Special Sale Price)	1 lb.	5 lbs.	.75	3.50

Window Cartons for 4¼x1⅞, and 4x5x1⅜ Sections
Prices—100 for $1.00; 500, $4.50; 1000, $8.75. Wt. 6½ lbs. per 100
Postage Extra on All Above.

60-lb. Cans

Standard square 2½" screw cap cans in stock ready for shipment.

PRICES

Packed in single cartons	$ .45 each
Packed 16 in a carton	5.50 per carton
In bulk (no cartons)	.31 each

Quantity Cash With Order Discounts

On an order of $50.00 or more at one time 5%.

On an order of $100.00 or more at one time 10%.

Dadant & Sons : : : : Hamilton, Ill.

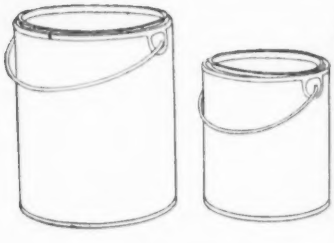
1945 Prices on Tin and Glass Containers

Glass jars in reshipping cartons F. O. B. the shipping points shown, including caps, whatever style available, without bails, priced as follows:

1 lb. jars, packed 24/c, wt. 12 lbs.	80c per 24
2 lb. jars, packed 12/c, wt. 9 lbs.	52c per 12
3 lb. jars, packed 12/c, wt. 11 lbs.	56c per 12
5 lb. jars, packed 6/c, wt. 10 lbs.	45c per 6
10 lb. jars, packed 10/c, wt. 17 lbs.*	75c per 6

*Stocked F. O. B. Watertown only.

Above prices on glass jars apply F. O. B. any of the shipping points of the G. B. Lewis Company indicated below. Send your order and remittance to the nearest shipping point to save freight.



Tin pails and cans F. O. B. the shipping points shown, not in reshipping cartons, for packing honey.

F. O. B. WATERTOWN	F. O. B. ALBANY, SIOUX CITY & LYNCHBURG
5 lb. pails, packed 50/c, $3.20	50 @ $3.30, wt. 27 lbs.
10 lb. pails, packed 50/c, 4.85	50 @ 5.05, wt. 45 lbs.
5 gal. cans, packed 16/c, 5.70	16 @ 5.70, wt. 54 lbs.

When you order from the G. B. Lewis Company use the following addresses, choosing shipping point nearest you; P. O. Box 825, Albany 1, N. Y.; P. O. Box 683, Lynchburg, Va.; 214 Pearl St., Sioux City 14, Iowa; and Watertown, Wisconsin. Orders exceeding $50.00 for tin or glass or both deduct 5%, exceeding $100.00 deduct 10%. All prices subject to change without notice.

SPECIAL NOTICE Prices on all wooden goods, including excluders, are increased 10% by authorization of Office of Price Administration, effective May 1, 1945. ¶No change in price on other items.

G. B. LEWIS COMPANY

WATERTOWN, WISCONSIN

Box 825, Albany, 1, N. Y.; Box 683, Lynchburg, Va.; 214 Pearl St., Sioux City, 14, Iowa

WHAT DO YOU THINK?

How Can Research Make Substantial Contributions to Beekeeping?

We need more research on sulfa drugs as a guard against and elimination for American foulbrood. When I mention this disease to a beekeeper I notice at once a tenseness in the air and I know that he feels as I do that if we had a remedy to combat it we would all sleep better.

I do not bbelieve everyone should experiment with sulfa because they may fail and so we should be cautious and let the experiments be done by those who know what they are doing. I do not believe that breeding bees for resistance will be the answer to the disease problem. I am afraid controlled breeding may lead to an inferior strain of bees in time. I think we should allow the Almighty to do that for us.

L. M. Leiper, Illinois.

— V —

We need improvement in bee pasture, a most important point for the present. We must advertise more so that our products will be consumed by all people. We must improve our bees. We must continue our research in pollen and pollen substitute.

John J. Vargo, Illinois.

— V —

I think the outstanding need of research is in finding plants suited for soil types. The sweet clover needs lime and agreeable weather and humidity abundantly. Pellett Gardens needs to be duplicated in all parts of the country so that adaptable honey plants may become known.

Carl M. Teasley, Tennessee.

— V —

We need research on substitutes to supplement fruit pollen; on disease control prevention; and on management problems, particularly on cost records and how to do work cheaply and quickly. Even simple questions like wiring frames, stupid I suppose, and yet many new beekeepers spend hours and days mastering. Follow that thought down through every detail of beekeeping and figure the headaches and trouble caused to all of us smaller fellows. My real business is dairy farming. I'm in a position to compare the work done in both industries and I know that detail work in beekeeping is way behind that in dairying and other branches of agriculture. This hurts beekeeping. It discourages well meaning small timers and beginners who eventually neglect their bees and equipment and end up as a hindrance to the industry. Certainly we should go ahead with sulfa drugs, soybean flour, pollen substitutes, etc., but for heaven's sake, tell me how much wax to melt to properly wax ten sheets of foundation in a super of sections. How should I know.

J. Frederick Powers,
New York.

— V —

Although beekeeping is one of the oldest pursuits, it is still in its infancy with only the surface scratched. We are now badly up against pasturage for bees. In 1941 Frank C. Pellett gave advice on the Wagner Pea. What has been done about it? We hear no more. Talk with the average farmer about the benefits for bees and few, if any, give any credit to the numerous facts given out on pollination. Tell a farmer that bees will increase the seed crops so as to make the seed of the second year equal to the value of the land on which it is grown and he says, "Aw shucks, you're talking for your own wares." If the beekeeper tries it and gets the bountiful seed, do you think he tells the world about it? No, why should he? So the competition grows. I have had bees on alfalfa for ten years and know that the farm owner is highly pleased. Do you think he will tell the figures to others? Not he.

I don't think we know all there is to know about our dreaded American foulbrood. Is it brought about by a food deficiency? Something is lacking. What is it? Is it the result of weakness in breeding, hereditary deficiency? Of course it's caused by a specific organism but what gives it its ascendency? Balanced rations for humans and animals control maladjustments in livestock and human beings. Why cannot the same be done with bees?

J. H. Sturdevant,
Nebraska.

— V —

Why not research to find the factors contributing to nectar secretion? We say now warm days and cool nights. Is it confirmed? We know that length of day affects the fruiting of plants. Is there relation between the length of day in nectar secretion? Does amount of moisture affect the amount of secretion and sugar content? Does the chemical content of the soil affect nectar secretion? Does stimulation affect nectar secretion or do nectaries secrete nectar regardless of whether nectar is removed or not? If those factors could be determined with something practical done to influence the nectar flow, wouldn't the factors that affect nectar secretion make the plants more valuable on the farm?

Pellett Gardens grow nectar secreting plants that appear promising with the hope that some may be found valuable to the farmer as well as to the beekeeper. That is research in the right direction.

W. E. Grossman, Ohio.

— V —

Beekeepers would benefit more today from a real effort to breed better bees, special strains for certain purposes and localities than anything else. I have kept bees twenty years and have seen revolutionary progress in breeding poultry, developing hybrid corn and farm seeds, but the bees are the same old bees of hundreds of years ago. Of course there is the disease resistant strain but outside of that, emphasis has been entirely on manipulation, feeding, etc. Some very good ideas have been brought up but I believe we are still getting at most of our troubles, hind end before.

We need adapted strains. This is a poor locality and last year was not a good year, yet a yard of natives that I worked on shares made a hundred pounds of extracted honey to the colony, while other bees were making nothing. They had plenty of faults, built burr comb in every crack, were vicious, but they made the crop.

This has been a hard winter on bees. Some package colonies in the South came through the winter all right under most difficult conditions. Some did well in summer but folded up in winter with honey still in the hives. So you see again the importance of strain and breeding. It seems to me that the breeding of better bees is up to the leaders. To men who make a business of selling bees and to those who are otherwise interested with time and money involved, the need is great.

Robert M. Mead, Vermont.

— V —

Any research to make the honeybee of more use to more people would serve the industry. With reports of dwindling pasture from all sections of the country, a current need is a nectar producing plant that will serve as a cover crop and for highway and

LET US CATCH UP

Quite a few have written for this feature and their material has not appeared. Each month there is more than can be used in the space available. We will try to catch up in the next few issues and then propose another question. Thank you very much for the contributions that have been made.

country roadsides. Extensive road making is being planned for the near future. Fifteen thousand air ports will be constructed with a border acreage in between runways. A vast area of waste land adjacent to railroad tracks could be included. A low growing honey plant to cover these areas that would be permanent, reduce upkeep, make for safety and beauty would be beneficial to beekeepers.

A. D. Ottinger, Kansas.

—v—

The need of beekeepers in one section may not be like the need of beekeepers in other sections. I believe we should have bees acclimated to the locality where they are used. About seventeen years ago I started with hybrid stock. For fifteen years I bought queens from others to get something better. I got bees fine for the location in which they were produced but they did not suit me. Once I bought a strain that looked like red Holsteins. These off-color queens proved the best for me of any queens which I have tried but none have surpassed the scrubs with which I started, particularly in honey gathering qualities. I now wish I had spent the time in breeding or selecting from this original stock.

The moral is if you have bees that are good honey gatherers, hang on to them. Get better ones if you can but keep your original stock until you are sure you actually have something better.

Chas. N. Jones, Maine.

—v—

Who's It?

THIS moustached gentleman with the choke collar takes us back to the gay nineties. We have been running little boys lately, so to see promising adults of an older generation may be a relief in the monotony.

Who is it? Sometimes our hints go hay-wire. We try to be careful however and only say that which will apply particularly to the individual unknown.

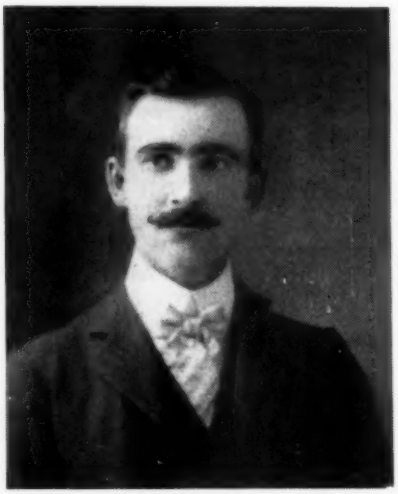
For this time let us say that he is an outstanding beekeeper, teacher, and extension worker; that he is not a native of this country. You would hardly call him a Latin, would you? No, he comes of hardy northern stock and although not a resident of the United States he is nevertheless almost as well known here as he is in his own country.

Come now, who is he? Send your answer by the fifteenth of the month. Correct answer three months subscription.

Last Month—Charles Mraz, Vermont

Quite an increase in replies for this one and more correct answers than for some time. Mraz meets the description given in the August issue to a "T". Reared on city streets (New York) nurtured in the turmoil of one of the largest cities in the world, he escaped in good time to the country side, to the peace and quiet of the apiaries of one of America's leading comb honey producers, J. E. Crane, Middlebury, Vermont. The bee fever hit him hard. Now he is a beekeeper in his own right as anyone in Vermont knows and one of those hard working individuals known as an apiary inspector.

V. O. Lee says that "although we got Mraz mixed up some time ago with Dr. Farrar it's Mraz this time for sure. He has some eight hundred colonies of bees in Vermont." Says



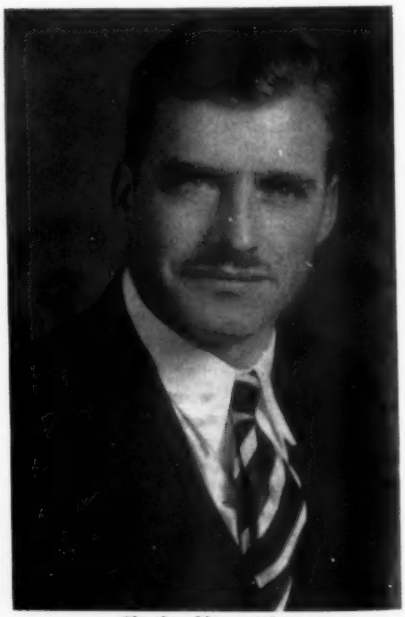
G. B. Mays of Champaign, Illinois "It is no other than Charles Mraz the Vermont policeman." And McKee, Montour Falls, New York "Why Charles Mraz, of course, and did you ever see nicer little sisters." Preston Kinard, Jr. of Louisville puts him in New York City to start with but says that "he escaped to Cogshall apiaries of New York. The young man's make-up well fits in favor and clues and so I think surely it is none other than he." (All right, Preston, except Cogshall—that is as far as we know). This bouquet comes from Andre Prost of New York "Should the handsome young man not prove to be the genial Charles Mraz great indeed would be my surprise." Earl Emmons says "he is the genial apiary inspector of Vermont who has no fear of foulbrood, especially in his own yards." How true! Mraz is more the father of resistant stock against disease perhaps than anybody else in this country.

Walter R. Witherell, Easthampton, Massachusetts, a brother inspector in a neigboring state, declares that its "the man who wrote 'If you keep bees just for pleasure, diversify to your heart's content, but if you keep bees for a living, keep more bees and keep them better'."

A close runner-up is Carl Killion, inspector of Illinois and W. G. Duckwall of Jacksonville, Illinois straddles the fence when he says "I'll venture a guess on Who's It? It might be Charles Mraz and it might be Carl Killion." Mr. and Mrs. S. S. Claussen of Mt. Morris are led astray by the comb honey caption because they know that Carl Killion is an excellent comb honey producer and exhibitor, also Illinois Chief Apiary Inspector. Eldon Martin of Goodland, Missouri says "you have me fenced in this time. You do such a good job suggesting Carl Killion that I'll bite. He is an apiary inspector and a comb honey producer and also a student of Charles Kruse, one of the foremost comb honey men of these times." Earl S. Days of Wadsworth, Ohio pays a nice tribute to Carl when he says that "my guess is for Carl Killion, Illinois Inspector and comb honey producer extraordinaire!" I think the off-color on Killion is that, as far as we know, he was not born in one of the larger cities of the world nor did he grow up there. Otherwise the hints fit him closely.

After guessing that the unknown is Killion, Van D. Snyder of Pennsylvania says "this one was a snap. I suppose it is due to the few comb honey producers in the United States."

Newman Lyle came in for three guesses but the hints do not suit him. He is not a comb honey man but has been a chunk comb honey producer. Neither was he born in one of the largest cities, nor is he an inspector. Other guesses were Harry Laidlow, Frank C. Pellett, W. E. Anderson, R. L. Stewart and James I. Hambleton.



Charles Mraz today.

FRUIT JUICES WITH HONEY AND THE MAKING OF HONEY WINE

By H. F. Wilson

No doubt beekeepers have already tried mixing fruit juices with honey, and quite a number probably have made honey wine. However, this is a field in which individual beekeepers can make delicious beverages for home use and, also, there is a fine opportunity to develop honey beverages for market. The method of making fruit juices and honey wine is very simple and, with normal care to prevent contamination, any beekeeper should find it easy to make a wide variety.

I have tried a number of different fruits, but the outstanding ones have been grapes, peaches, apricots, blackberries, black raspberries, plums, and cherries. Five pounds of fruit is sufficient for five gallons of beverage. The fruit should be well ripened and cleaned carefully. The jugs or bottles to be used should be thoroughly sterilized by heat and kept corked tightly until the liquid is poured into them.

Boil the fruit with water enough to cover well and strain the juices through a double thickness of flour-sacking. Boil the remains a second time to get all of the flavor of the fruit, and put that through the strainer. The juice should be poured into the containers while still hot, to prevent contamination by yeasts. To prevent breaking the bottles or jars, pour a little warm water into the bottom before pouring in the fruit juice.

The sweetness of the beverage will be determined by the amount of honey to be added. Several trials would have to be made to enable the maker to determine the sweetness desired. About one or two gallons of honey to five gallons of diluted juice gives a satisfactory flavor.

The honey should be heated to 140 to 160 degrees Fahrenheit and poured into the container with the liquid from the fruit. Add near boiling water to fill the container after the juice has been poured. While five pounds of fruit ordinarily will give a good flavor, it may be necessary to use additional fruit to get intensified flavor. If the beverage is held in pint or quart jars, or bottles, they may be sterilized in boiling water after they are filled. If properly heated and the containers sealed tightly, beverages will keep indefinitely.

In making honey wine the same procedure may be followed in preparing the material to be fermented.

However, the jugs or bottles should not be sealed tightly and yeast will have to be added to produce fermentation. **Do not use baker's yeast.** The best organism for home use is found on tame grapes. Pick a few grapes on which the skins are unbroken and which still carry their bloom. Crush half a dozen and put them in a sterile bottle. Add ¼ glass honey and ¾ glass of water. Let this stand three or four days and then add to the juices to be fermented. It is not necessary to add other salts as is sometimes recommended.

The secret of making honey wine is to keep it in air-tight containers but with an out-let so the gases produced by fermentation can escape. The accompanying drawing shows how to set up the fermentation equipment. Secure a good sound new cork, bore a hole through the center, push a glass or other tube through the cork and then fasten the cork securely in the bottle. The tube should be bent in such a way that it can be connected with a piece of rubber hose, or, if rubber hose is not available, the tubing should be such that it can be extended into a bottle of water. The fermenting gas will pass through this tube and is released in the water. If the equipment is set up properly, no attention need be paid it for months. If it is air-tight, there is no danger of its changing to vinegar. To determine when the process of fermentation has ceased, shake the bottle and if no air bubbles form in the bottle containing the water, the fermentation process has stopped. Then the bottle can be closed with a tight cork and allowed to stand and the beverage drawn as desired. It will be better if the bottles are kept in the basement through the process of fermentation, as fermentation is better at temperatures around 55° to 70°. Fermentation will not take place to any extent below 55°F. and does not seem to give the best body and flavor if fermentation is allowed to occur at high temperatures of 80° to 90°F. The product is much better if the fermentation is allowed to go on for a year before the product is used. And it gets better by standing. As soon as fermentation is finished, the sediment in the fermented liquid will start to settle, and this sometimes requires months and even years for a complete settlement, so that straining will not help.

Three or five gallon water bottles are best for storing the wine because by looking at the side the height of the sediment in the bottom can be determined. The best method for removing the product is a syphon tube. By putting the syphon tube at a point just above the sediment, a fine, clear liquid can be secured.

Straight buckwheat honey without the addition of any fruit juices makes a wonderfully fine wine. Use two gallons of honey and three gallons of water.

CAUTION: If the bottles are kept air-tight there is no danger of the wine changing to vinegar. But there must be an outlet for the gas of fermentation during the process of fermentation, or the pressure of the gas inside will burst the bottles. Wine is produced by yeasts. After the wine is made, if exposed to the air vinegar bacteria enter and change the wine to vinegar.

Wisconsin.

♦

HONEY IN JELLIES AND MARMALADES

Our readers are already well conversant with the activities of the American Honey Institute. Right now the demand on them has been extremely heavy for the use of honey in place of sugar.

The Institute has recently revised its folder on canning and preserving and has besides gotten out a new folder on "Jellies and Marmalades Made with Honey."

Most of the recipes contained therein use all honey with the addition of some pectin or half honey and half sugar.

The shortage of sugar has given the beekeeping interest an "in" with the consumer. Let us make the most of it.

The jelly folder or the canning and preserving folders are available from the American Honey Institute, Madison, Wisconsin. The price is 100, 60c, 1000 $5.50, f. o. b. Madison.

—V—

BUY BONDS

A palm log apiary in the West Indies. The second colony from the left has the ends partly blocked to protect a new colony from being robbed.

A PALM LOG APIARY

By R. M. BOND

IN the spring of 1933, I was a member of a scientific expedition in the West Indies. Between the towns of Barahona and Las Damas, in the Dominican Republic, we came to a clearing in the trees where there was a little tropical farm house. Scattered over the ground in the clearing, we saw a lot of sections of royal palm trunks. A second glance showed that the logs had been hollowed, and that bees were entering and leaving the open ends of the logs, so we stopped to see if we could buy some honey.

Our truck was instantly surrounded by a considerable body of clean and friendly children who demanded (in Spanish) to know all about us. We went up to the house, which was quite a bit better built and better kept up than the average of the area, and found several adults, dominated (also in Spanish) by a tiny old woman with grey hair, who turned out to be the owner of the bees.

She let me out into the apiary and got ready to take off some honey. I wanted to photograph her at work, but she put her foot (bare) down very firmly, saying she knew she looked funny enough under ordinary circumstances, and was not going to be photographed in the midst of reacting to a sting. She carried a smoldering stick from the cooking fire in the house, and let the slight air movement carry the smoke in one end of the log and out the other. The bees backed off the edges of the comb, she squatted down and wrapped her skirts around her legs for protection and broke off chunks of comb honey to fill our gallon bucket. It was delicious, and according to her was mainly from mesquite and palm trees.

I asked a good many questions about her operations, besides watching her work. The system, though hardly up to a modern American apiary, has many advantages over the skep or box hive set-up. The logs are about 4½ feet long, and perhaps 8 to 18 inches inside diameter, mostly about a foot. The brood is all in the middle of the log, with surplus honey being stored mainly at the ends, where it is easily accessible. To get the honey from both ends of the hive, it is necessary to wait for the wind to change, or to turn the hive around so the smoke will go through it from the other end.

Swarms are expected as a matter of course, but are not pursued. Instead a pile of empty sections of hollow log is maintained in the apiary, there being 30 or 40 logs in the pile. Since hollow trees or other suitable sites are rare on the island, almost all swarms pick one of the empty sections. This is lifted off the pile and put on the ground, and boards are stuck in the ground so as to block most of both openings, thus protecting the weak new colony from being robbed out. The boards are removed when it starts to build up strength.

When the main honey flow is over, the weaker and less productive colonies are culled out, melted up for wax, and the "hives" put back on the pile to attract a new swarm.

There were about 200 colonies in the apiary, and I asked the old lady the exact number. She said she had no idea. I expressed surprise that she didn't know the size of her own operation. "Look here, sonny," she said, as though speaking to a backward child. "Every colony here is mine, isn't it," I agreed. "And I have all I need, haven't I?—Well, then, who but a fool North American would waste his time counting them?

—V—

USING THE FIRST SWARM

Arthur Myers' article in your July number on using the first swarm for comb honey reminds me of the method used by my father, S. T. Pettit, in Ontario.

First build up your colonies for early swarms. Before that clip the wings of all queens and have hives for the swarms prepared with frames of foundation with starters. Have someone watch for swarms.

When a swarm emerges take a queen cage and watch the entrance for the clipped queen when she emerges. Cage her. Set the parent hive to one side and the new hive with frames of starters and comb honey super on the old stand. Place the caged queen at the entrance. The swarm will soon come trooping back and the queen is released to enter the hive with it.

Five days later remove the parent hive to a different part of the yard. The main difference is the use of frames with narrow starters instead of the use of combs. This forces more honey into the sections. Drone comb will be built and the swarm will dwindle away but not until the sections are filled.

The parent hive becomes the colony with the young queen for next year. The swarm may be requeened, given good combs for a fall flow or simply "taken up" and its bad combs will add to the wax crop. Nothing is lost on the frames as they were not wired nor did they have expensive foundation.

I think Mr. Myers will get at least one super more of comb honey by using starters instead of combs. To make the swarm more happy it may be well to use a single comb. That will also keep pollen out of the section but it will reduce chances of worker combs being built.

Morley Pettit,
Georgia.

FOOD RESERVES FOR BEES (1)

By C. L. FARRAR

Bureau of Entomology and Plant Quarantine, Agriculture Research Administration, U. S. Department of Agriculture.

THE relation between food reserves and beekeeping practice is like the question—which came first, the hen or the egg? Have the changes in the kind and quantity of food reserves influenced beekeeping practice or have the changes in practice influenced food requirements? When one understands the interdependence of these two factors, he can rationalize the recommended food reserves with particular periods of beekeeping thought. A poor hen produces a small number of eggs, but they are still eggs; yet a truly good egg, from a genetical viewpoint, will produce a hen capable of laying a large number of eggs. Similarly, poor beekeeping practices may result in colonies that need only a small amount of food. By improving the food reserves the beekeeper can develop stronger colonies, which will require better management practices.

The honeybee colony should be considered as a living organism whose functioning cells consist of ever-changing individuals. The beekeeper need not be greatly concerned about the individual bees. It is the contribution of the individuals to the colony that is important. He need be concerned not so much about the amount of food the colony consumes during a year as about the amount of honey produced above that consumed. Food reserves have taken on a new meaning since it was found that a colony that consumes twice as much food as another colony may produce several times as much surplus honey.

Larger reserves of both honey and pollen become a necessity under management practices directed toward building more populous colonies for the honey flow. Larger hives are required to hold these reserves, to permit growth of the population, and to furnish favorable storage conditions.

Whether the goal is honey or pollination, the object of all beekeeping practices is to provide maximum colony populations under optimum working conditions for the blossoming periods of particular plants. Successful management requires a productive queen, a population of healthy worker bees normal for the time of year, adequate reserves of honey and pollen, and ample hive space. Control over the working behavior of the colony is equally important. Each of these factors is a part of the problem of management, and a modification of any one may affect all the others.

Because honeybees have not been domesticated, it is essential to understand their behavior in relation to the existing environment. Adequate food reserves of both honey and pollen are necessary for a favorable internal colony environment. First-class colonies can then adapt themselves to the extremes in climatic conditions that permit survival of the plants upon which bees must depend for food.

Honey Reserves

The amount of honey that will be consumed by a colony depends upon its population, its ability to rear brood, the length of the broodless period, and the interval between periods of nectar secretion.

Beekeeping practices in the past were wasteful not only of food reserves but of the bees as well. When bees were housed in skeps, the operator killed both his heavy and his light colonies, the former because they had more honey than they needed for winter and the latter because they had too little. The medium-weight skeps were retained in the hope they would cast many swarms the following spring for restocking.

When single-story hives were in general use, both the strength of colonies and their food reserves were subject to the physical limitation of the hive. Their 20 to 30 pounds of honey was considered adequate. Spring feeding was usually necessary because of the restricted space for storage of reserve food, even though the quantity of food required by the small colony was not large.

Expansion of the hive by the use of more than one chamber or by increasing the size and number of frames increased not only the size of colonies, but also their food requirements. The larger colony, because of less restriction in brood rearing, stored a larger portion of its food in the supers. Fall as well as spring feeding was often necessary because such colonies consumed more honey than beekeepers had been accustomed to leaving with their small, restricted colonies. Later 45 to 50 pounds of honey was recommended for winter. This proved to be a minimum standard for average colonies under favorable conditions. Tendency among beekeepers to adopt the minimum often

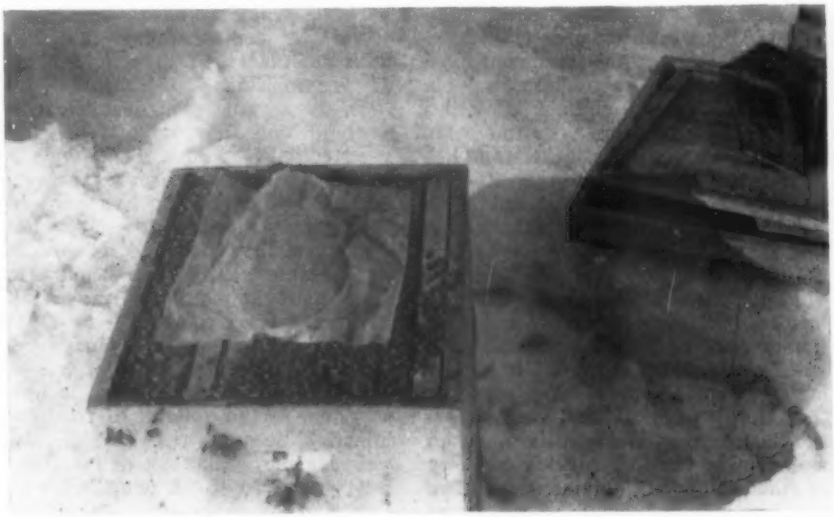


Fig. 1. Pollen cake the first week in March.

(1) A contribution from the Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, U. S. Department of Agriculture, in cooperation with the University of Wisconsin.

Fig. 2. Pollen cake, partially consumed, second week in March.

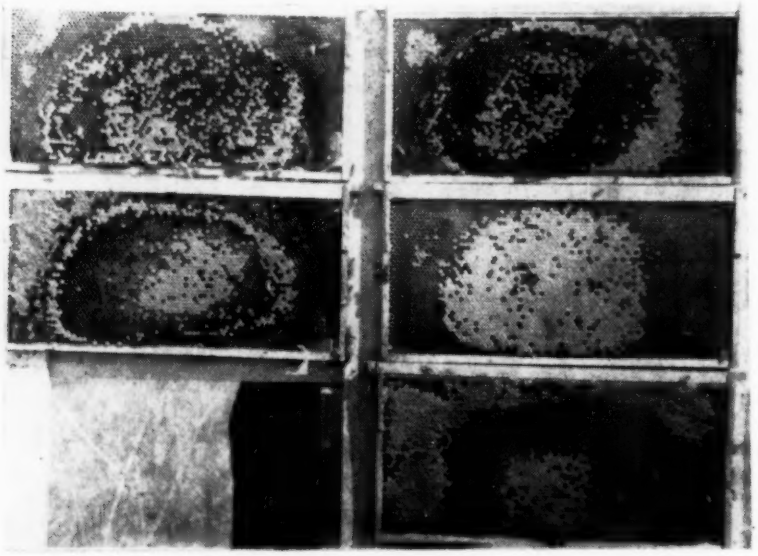


Fig. 3. Brood, photographed April 10.

resulted in the loss of their best colonies.

The amount of food recommended or required has been further complicated by wintering practices. Colonies in a cellar sometimes consumed as little as 5 to 10 pounds and seldom more than 20 to 30 pounds. Colonies wintered out-of-doors required more honey. For many years the trend has been toward outdoor wintering, because colonies so wintered have generally been stronger in the spring and therefore more likely to produce a full crop.

Experience in outdoor wintering has brought modification in both the theory and the practice of wintering, with consequent changes in colony management. Instead of conserving the energy of individual overwintering bees, the emphasis is now on maintaining the full working capacity of the colony. Colonies that have both pollen and honey for winter and early spring brood rearing require larger food reserves, but they produce a larger surplus than those supplied only with honey. Beekeeping practices based upon hand-to-mouth feeding prove ineffective with colonies that have a high rate of consumption.

In most northern localities the average consumption of stores by good colonies is 50 to 60 pounds between the close of brood rearing in the fall and sustaining honeyflows in the spring. Flows from early sources do not always materialize, because unfavorable weather conditions often affect both the plants and the activity of bees. It is therefore unwise to plan on average consumption.

The strength, or working efficiency, of overwintered colonies is proportional to the amount of food consumed. Because the best colonies may use more than 60 pounds, food reserves of 70 to 90 pounds provide a form of insurance against their loss, as well as against unnecessary labor costs for feeding. Since honey that is not consumed will reduce the amount that must be stored for a future reserve, no honey will be lost if the colony has 30 pounds more than it needs. There will be a real loss, however, if the colony needs more honey than it has.

Starvation is probably the most important single cause of winter loss. Complete or partial starvation may result if the amount of reserve honey is too little or if it is improperly located within the hive. The task of estimating reserve honey is complicated by the great variations in weight of hive equipment or reserve pollen. Two-story standard equipment should have a gross weight of at least 130 pounds in the fall. Since it is often impractical to weigh the hives, one should underestimate rather than overestimate the amount of stores.

There should be not less than 40 to 45 pounds of honey in the top chamber. If these upper combs contain considerable pollen covered with honey, the amount of honey may be misjudged. Pollen bands or areas may be located by scratching two or three lines across the cappings. Usually not more than 150 square inches of comb surface in the top chamber should show pollen. The chamber immediately below the top should have from 20 to 30 pounds of honey and the main pollen reserves. Wintering in three-story hives to allow an additional 20 to 30 pounds of honey below the main colony insures adequate food reserves and simplifies management.

Larger reserves of honey are sometimes required because an especially prolific queen heads a colony with large pollen reserves or because of progressive robbing. Occasionally colonies of equal strength show differences in loss of stores, because bees from one colony enter another for honey without meeting any resistance.

Pollen Reserves

Langstroth recognized that normal colonies rear brood in midwinter, and he fully appreciated the need for pollen to support brood rearing. Later, when emphasis was placed on the conservation of energy and food, winter brood rearing was looked upon as detrimental to good wintering. Protection provided by especially designed cellars or hive insulation was considered to give ample security. Winter losses continued, and the surviving colonies often required too long a period to reach full productive strength. Protection in itself was not detrimental, but so much dependence was placed on protection that the basic needs of the colony were overlooked. Futhermore, in large apiaries so much time was required for packing the hives that other

essentials, such as food reserves, organization, and populations, were often neglected.

More than 15 years ago the fact that winter brood rearing was not only normal but also beneficial was again recognized. Experiments and practical tests have proved that the strength of overwintered colonies is proportional to their ability to rear brood. Pollen is now regarded to limit the colony the year round just as much as do the queen, the population, health of bees, reserve honey, and general management.

Surveys have shown that pollen reserves are inadequate in most regions where bees are kept. Sometimes it is a question of pollen reserves to bridge the period when plant life is dormant, while at other times inclement weather is the limiting factor. At least 500 square inches of pollen represents a desirable fall reserve for colonies in northern localities. The fall pollen reserves of full-strength colonies usually range from none to more than 1,000 square inches. In most apiaries three-fourths of the colonies are likely to have inadequate reserves.

There are periods when pollen is plentiful, just as there are periods when nectar is abundant. Manipulative practices may affect the accumulation of reserve pollen, but they are not dependable. The pollen trap provides an effective means of collecting pollen for feeding during critical periods. In most northern areas an average of 20 pounds can be trapped from a colony during a season. This amount is usually sufficient to meet the requirements of 50 colonies if it is supplemented with soybean flour.

Soybean Flour as a Pollen Supplement (2)

Feeding tests have shown that 1 pound of pollen is required to rear approximately 4,500 bees. Normal colonies probably consume 40 to 50 pounds of pollen in a year. This represents 8 to 10 gallons of pollen pellets. The brood-rearing value of a given quantity of pollen can be increased six to eight times by supplementing it with three times its weight of **expeller-processed** soybean flour. Thus, 1 pound of pollen plus 3 pounds of flour will enable a colony to rear approximately 30,000 bees.

The feeding of trapped pollen supplemented with soybean flour in cake form is a practical method for regulating colony development during the critical period of late winter and early spring. No satisfactory method of feeding the pollen supplement has been found that will permit the building up of a fall reserve. Trapped pollen has been stored in dry condition for several years without any apparent deterioration in its brood-rearing value. Therefore, it is good practice to trap plenty of pollen so that it will be available for feeding whenever necessary.

In localities having a June honeyflow all colonies can be fed the supplemented pollen beginning March 10 to 20. Feeding should be continued until the bees are collecting sufficient pollen to maintain full brood production. Sufficient supplement should be given at one time to last 10 to 14 days and a new supply added before it is entirely consumed.

The formula for the supplemented pollen cake consists of one part dry matter (1 part pollen and 3 parts of **expeller-processed** soybean flour) and two parts sugar sirup (2 parts sugar and 1 part of hot water).

Dry pollen softens readily in water but not in sugar sirup, therefore the desired amount of pollen should be added to the water before dissolving the sugar. One cake would be prepared by adding 2 ounces of pollen to 5 ounces of water. Then stir in 10 ounces of sugar until dissolved or in suspension. Finally, add 6 ounces of soybean flour and mix thoroughly. Any number of 1½ pound cakes can be prepared by using multiples of these values. A 60 pound batch, sufficient for approximately 45 colonies, can be conveniently mixed in a medium-size tub using 14 pounds of hot water, 5 pounds of pollen, 26 pounds of sugar, and 15 pounds of soybean flour. Hand mixing can be completed in about 15 minutes, but an electric household beater is helpful until the mixture begins to stiffen.

For each colony approximately 1½ pounds of the supplement is placed on a piece of wax paper. To avoid sticking while placing the supplement on the paper, the hands should be kept wet by dipping them in water. The cakes may be stacked in boxes convenient for carrying to the apiary.

To add a cake, the hive cover is removed and the bees are smoked down, or, if tightly clustered, they may be pushed aside with the hive tool. The cake should be placed directly over the center of the cluster, and the paper left on top. The inner cover is inverted to provide space for the cake. Standard equipment is satisfactory, but inner covers with slightly deeper rims would be an advantage. It is a good plan to scrape the burr comb from the top bars and inner covers in the fall. The bees smoke down better, and the remnants of previous cakes can be shifted more rapidly to permit the second round of cakes to be placed directly over the brood nest.

Cakes given to colonies clustered some distance below the top bars will not be used. Neither will the bees use them if placed to one side of the cluster or when there is considerable reserve pollen within the cluster. The strength of the colony or the amount of brood being reared will determine the quantity of cake to be fed at one time. Approximately 1½ pounds is satisfactory for the first round of cakes on overwintered colonies, and somewhat less on new package colonies. The quantity may be increased to 2 to 3 pounds as brood rearing expands.

The feeding of supplemented pollen in a moist-cake form is recommended, because feeding it dry outside the hive is not in accord with principle of regulating colony development independent of weather conditions. During late winter there are usually only a few days when the bees can fly and collect the dry material. If fed dry inside the hive, much of it would be thrown out by the bees.

Practical Recommendations

1. Trap pollen during the summer from 1 good colony for every 50 colonies operated. Dry the pollen until it does not cake when squeezed in the hand, and then store for future use in closed containers such as 5-gallon honey cans. Fumigate by adding a little carbon disulfide when it is necessary to control wax moth larvae or other insect pests.

2. Use management practices that favor the accumulation of reserve pollen in the hive. At the close of brood rearing in the fall most of this pollen should be situated immediately below the main honey reserves.

3. Make sure that all colonies have normal populations for winter. Normal populations at the close of brood rearing consist of approximately 10 pounds of bees that emerge after August 20, and they cover at least 20 standard combs if the hives contain adequate honey stores.

4. A standard 2-story, 10-frame hive should have a gross weight of 130 pounds at the close of brood rearing. Three-story hives should weigh 170 to 180 pounds. Sufficient honey should be left on the hives until early in September to insure adequate winter stores. A total of 120 pounds is not too much if the main crop is removed in July. If a satisfactory fall flow develops, some of the honey can be removed for surplus. When necessary to increase the stores in the brood chambers, supers containing honey can be placed below the brood nest for the bees to move up. They will move the honey readily if it is unsealed; otherwise the cappings may need to be bruised or broken.

5. The top brood chamber of either a 2 or a 3-story hive must contain sufficient honey to meet the colony's needs during the winter months while the bees are tightly clustered. The bees prefer to form their winter

(Please turn to page 323)

(2) Schaefer, C. W., and Farrar, C. L. The use of pollen traps and pollen supplements in developing honeybee colonies. U. S. Bur. Ent. and Plant Quar. E-531, 7 pp., illus. 1941. (Processed).

THE LANGUAGE OF THE HONEYBEES*

By MYKOLA H. HAYDAK

Division of Entomology and Economic Zoology, University of Minnesota.

THE life of the honeybee has attracted the attention of many beekeepers and investigators. It is not surprising: the whole organization of the bee community has been shrouded in mystery, the veil of which is gradually being lifted by the untiring efforts of numerous students of bee life.

In examining a colony of bees, beekeepers of the past encountered certain phenomena which seemed to them to be without meaning. So it is noted in one of the old European books on beekeeping that in 1823 a prominent beekeeper showed his friends dancing bees and "everybody enjoyed watching the bee ballet." They did not know that earlier in 1788 Father Spitzner had described these dances as a method by means of which bees communicate to the inmates of the hive regarding the volume of honeyflow and the place of the source of nectar. Spitzner's observation had fallen into oblivion until more than a century later when von Frisch published his famous observations "About the language of the bees." He unquestionably proved that the bees "tell each other" about the amount of the honeyflow but not about the location of the plants yielding nectar.

A bee that first discovers a rich source of nectar, after returning to the hive and disposing of her load, begins a special "ritual" dance which von Frisch named a "round dance." To quote his own words, the bee "with quick short steps runs around in narrow circles on the comb, often changing her direction so that she rushes once to the right, then to the left and again describes one or two circles in either direction." It may continue to "waltz" for several seconds or even as long as a minute; then she may stop and begin the dance at a different place on the comb. Finally she rushes toward the entrance and flies out again. The dance excites the bees, they follow "the performer," place their antennae (feelers) on the dancing bee, and leave the hive in search of the source of nectar.

A somewhat different dance is performed when a pollen gatherer returns to the hive. In this case the bee, before depositing the load, begins to dance on the comb making a narrow half-circle to one side, then executes a sharp turn and runs in a straight line to the starting point, then describes a half-circle in the opposite direction so that she completes a full circle with the first half-circle. Then the bee again runs in a straight line to the starting point. However,while running in a straight line, the bee performs wiggling motions with all her body—hence the name—"wiggle-tail dance." The inmates of the hive are excited by the dance and by the odor of pollen and fly out looking for the source. When observing bees dancing in the hive, one is impressed by the fact that there is no sharp distinction between the "pollen dance" and "nectar dance." Out of several dozen of bees observed lately while taking movies at University Farm, only one pollen gatherer performed according to the books. The dance of the rest of them was rather a mixture of the two.

These two dances can be observed only during the active season when bees discover a rich source of nectar or pollen. However, there are some other dances which one can notice at any time during the year when appropriate conditions exist. Many beekeepers have observed in their apiaries, especially in the evening, bees performing a mass dance on the front wall of the hive. The bees stand firmly on the second and the third pair of legs, facing the entrance. The head is bent down and the front legs are bent also. The bees perform "rocking" or "washboard" movements swinging their bodies forward and backward. At the same time, with short and qiuck movements of the bent tarsi of the front legs, they scrape the surface of the hive and their mandibles, with a rapid shearing movement, slide over the surface as if cleaning the latter. The tips of the antennae touch the surface, moving constantly as if checking up on the work. After a while one can observe some material accumulated on the lower edge of the mandibles. Periodically the bees clean their mandibles as well as the tarsi of the front legs. Occasionally they move and continue their "dance" at another place. Careful investigations have shown that these rocking movements serve as a mechanical cleaning process by means of which the bees scrape and polish the surfaces of the hive. Uusually this dance, both inside and outside of the hive, is performed by young bees, probably as a part of their duties in taking care of the hive. Such a dance by individual bees has been observed inside of a glass hive even during the winter, but it was always of short duration.

Occasionally a bee feels the need of being cleaned. In such cases it performs a special dance, consisting of a rapid stamping of the legs and a rhythmic swinging of the body to the sides. At the same time the bee rapidly raises and lowers the body and tries to clean around the bases of the wings with the middle pair of the legs. Such a "shaking" dance may be observed any time during the year, even during the winter. Usually the bee which is closest to the dancer touches the latter with its antennae and begins to clean the dancer. With the mandibles widely spread the "cleaner" touches the thorax of the dancer just under the base of the wings. As soon as the dancer feels the touch of the cleaner it stops dancing, slowly spreads out the wings of one side, bends the abdomen and curves the body to the side and somewhat upward as if accommodating the cleaner. The latter works very energetically. Its antennae are held close to the mandibles. With shearlike motions of the mandibles it cleans around the base of the wings. From time to time it stops, standing on the last two pairs of legs, the front pair being held in the air, and works with the mandibles as if chewing something that it found while cleaning, holding the antennae close to the tips of the mandibles. Then the cleaner continues her work, "clipping" with the mandibles over the scutum from the rear to the front, sometimes over the head, and in the grooves of the thorax; sometimes she climbs on the dancer, crawls to the other side and cleans under the opposite pair of wings and then quits. If the dancer is satisfied with the work she cleans her tongue, antennae and the body in general and goes about her duties. In case the cleaning was not done well, the bee continues to dance, and either

(*) Paper No. 525, Miscellaneous Journal Series, Minnesota Agricultural Experiment Station, St. Paul.

the same cleaner or another bee starts the process of cleaning all over again.

There is still another dance which is very difficult to interpret. Sometimes a bee places its front legs on some part of the body of another bee and then makes five or six shaking movements up and down with the abdomen, with a simultaneous slight swinging forward and backward. Then it crawls farther and performs such a dance touching another bee, then another and so on. Usually a number of such dancers can be observed during a quiet warm afternoon or evening after a good honeyflow in colonies where everything is normal. Sometimes one can see such a dance on a sealed queen cell. The writer observed last spring that when a virgin queen had just emerged from a cell in a queenless colony, a large number of bees started performing such a dance. This dance may be called a "joy dance," a "good-time dance" or a "dance of contentment," because it is done only when the conditions in the hive are at an aptimum.

Another very interesting activity can be observed in a hive the meaning of which is not clear. It begins when one of the bees on the comb bends its head in a peculiar way. One or more neighboring bees become excited and immediately begin to investigate her using their antennae and front legs. They climb over and under her, pull the joints of the hind and middle legs, but mostly touch her sides from below with their antennae, mandibles and front legs, cleaning their antennae periodically. The bee which aroused so much attention has the mandibles wide open and the upper part of the tongue protruded as is the case with the nurse bees. The protruded part is entirely dry. The bee turns her head toward the "examining" bee as soon as the latter approaches the front part of her body. Then she unfolds the entire tongue, extends the second pair of legs as if sitting on the third pair and constantly cleans the tongue with her front legs. Sometimes the tongue becomes completely distorted, the tongue appendages spreading in various directions so that an impression is obtained that the bee has cramps of the tongue. At the same time the bees that started "the massage" frantically continue their treatment, sometimes pulling the "sick" bee by the mandibles or tongue, sometimes licking the latter. Several minutes later everything quiets down and the "sick" bee begins normally to clean its antennae, eyes, hind legs, wings, the tongue and then quietly crawls away. Such a phenomenon has been observed usually in the fall or during the winter and the same treatment was observed in early spring being given to chilled bees when they were placed on the entrance of their hive. What the meaning of this "massage" is, is anyone's guess.

This brief article brings together all the known facts about the ways in which honeybees communicate with each other. The author entertains the hope that it will be helpful to persons interested in interpreting some of the activities of bees. A beekeeper can learn much about nature if he not only lives from his bees but also lives "with them," spending some time in observing their ways of life during the various seasons of the year.

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A NEW FILTER FOR HONEY

By C. R. WALKER

IN the field of pure science we are finding rapid developments and should constantly be alert for their application to the beekeeping industry. In 1944 an article called "The Glass that Leaks" appeared from the Chicago Apparatus Company. A letter to them suggesting that this "fritted glass," as it is called, might be useful in filtering honey was forwarded to the manufacturers, The Corning Glass Works of Corning, N. Y., and they very kindly furnished me with two discs, one of fine and the other of coarse porosity, and both were used in filtering honey.

The manufacturers state, "Fritted ware is used primarily for filtration; hence, retentivity and speed are important. Through judicious selection of porosities, filtration of precipitates varying in size can be accomplished at maximum speed." "Fritted ware is designed primarily for vacuum filtration. If used for pressure work the maximum pressure on the disc should not exceed 15 lbs. per square inch."

Both discs were used with vacuum furnished by the common filter pump which is screwed on a faucet and which will develop a vacuum of about 1.25 cm. of mercury. The honey was heated to 160 F. for filtering. Filtration through the disc of coarse porosity was very rapid and there was no noticeable clogging of the filter as is sometimes experienced with cloth. Filtration through the disc of fine porosity was much slower.

A comparison of the honey after passing through the fritted glass filters shows that the viscosity has become slightly less in passing through the coarse filter and is reduced still more through the fine. Samples of the same lot of honey, part of which had been strained through three thicknesses of cheese cloth, part through the fritted glass of coarse porosity, and part through the fritted glass of fine porosity, were sent to Dr. Farrar who forwarded them to the Agricultural Research Administration at Beltsville, Md., and their report says, "The color of all was 'white,' according to the Pfund color-grader. No sediment was left by any of the three when strained through standard bolting cloth of 86 meshes per inch." .... "All three samples seemed to meet the requirements for U. S. grade A."

The fritted glass filters are made in fine, medium, and coarse porosities and seem to be ideal for producing a honey completely free of suspended matter and crystal clear. They can be cleaned easily. Their manufacture and use could no doubt be designed to fit the needs of both commercial and small packers. The filter of coarse porosity makes possible rapid filtration and in most cases will completely free the honey of any suspended matter, and its use will greatly improve the appearance of any honey.

Colorado.

—v—

AIRPLANES FOR AGRICULTURAL PERISHABLES

The airplane as a contract carrier of agricultural perishables calls for planning two-way loadings and suggests that moderate size airplanes may prove as efficient as larger ones. The contract carrier operation should be based on the interchange of agricultural products and manufactured products. The principal movement of commodities probably will be perishable agricultural products from West to East and South to North, with industrial products on the return haul. Perishable foods will be carried this way from distant points of production. This suggests the possibility of extension of the service in transport of queen bees by air mail, even possibly of package bees.

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COOPERATION

The Cooperative De Apicultores De Puerto Rico has recently been formed by a group of beekeepers in this pleasant island under the cooperative laws of Porto Rico. They anticipate covering eventually all beekeepers of Porto Rico. We wish them success.

THE PREPARATION OF COLONIES FOR WINTERING

By R. E. NEWELL

IT will soon be time to consider the problems of wintering our bees. Experienced beekeepers start early in July, by re-queening those colonies with queens that have been through two full seasons of heavy production or those that, for one reason or another, are not desirable. While it is generally a good policy to requeen during August there is no reason why this work cannot be done just as well during September and early October during the autumn honey flows from golden-rod and wild aster. Requeening during a period when there is no honey flow is generally a little more difficult due to the fact that the bees are more difficult to handle. Feeding with sugar syrup puts the bees in a more receptive mood when nectar is scarce during the period of requeening.

With all colonies headed with prolific queens, one of the most important factors of wintering has been solved. These colonies should have between five and ten full combs of brood during September and October to furnish young bees for the winter cluster. These bees must be young if they are to winter in good condition. The honey bee is not able to replace worn tissue, and bees that have gone through a honey flow with its heavy strain, are no longer young. We want five or ten pounds of bees in the hives that were born too late to have taken any active part in gathering the crop. Such bees are able to stand considerable hardships during the wintering period, and still be able to start the colony off in its production of early brood in late winter and early spring and have vitality to gather early pollen and attend to general colony activities until the early brood has emerged and can assume such duties. Colonies with old worn out queens do not produce sufficient young bees in late fall. Much of the failure in wintering therefore can be due to faulty queens.

The next important factor in good preparation for wintering is the supply of reserve pollen in the hives. Pollen is necessary to furnish the protein in the diet of the larval food of the young bees, and may be utilized also by adult bees during the winter. Dr. Farrar of Wisconsin, and Dr. Haydak of Minnesota have long stressed the importance of pollen in the diet of the honey bee.

A real strong colony may utilize from three to five combs of pollen during the early brood rearing period before natural pollen is available from the trees in late March and April. Dr. Farrar has recommended 600 square inches of pollen and this would be equivalent to about three standard combs full of pollen on both sides. However, bees as a rule do not store the cells entirely full of pollen but pack them about half full, covering the pollen with honey and sealing it with wax, like regular combs of honey. Such pollen reserves may be scattered throughout the combs of the brood chamber, particularly near the tops of the frames in the center combs, and those at the sides may be almost half pollen with a honey covering. Honey protects the pollen and keeps it moist and in good condition for much longer periods than if it is stored without this protection.

Colonies made up late in the season after the period of heavy pollen production from the trees and flowers may not contain sufficient pollen for good wintering. Therefore it may be well to furnish such colonies with combs containing pollen that may be spared from other colonies. Colonies should have a minimum of two combs of natural pollen, and it might be well to unite two small colonies during the late fall period so that they will have this amount.

The third factor in good wintering is ample supplies of honey. In the north a standard hive body full of honey is about the minimum amount that should be left with each colony for wintering. Some winters colonies may come through the wintering period with as little as 40 pounds left for them. However, 60 pounds is a much safer amount to leave on the colony for often the bees may starve to death for the lack of only a few pounds of food. It is poor beekeeping practice to exact too closely, and allow good colonies to die out during late winter and early spring. The honey left for them is therefore entirely lost with no returns on the investment. It is much better to leave the bees with from ten to twenty pounds more than their requirements, for what is not utilized during the early spring months may be extracted.

This past spring with its cold rainy spring season has emphasized the importance of ample food reserves. Many colonies were unable to supply the needs for brood rearing during this past season from what they were able to gather from the field, resulting in a considerable decrease in brood rearing. Any decrease in the production of brood in early spring shows up in less production of surplus honey.

The shallow food chamber full of honey may contain as much as twenty-five pounds of honey but unless the brood chamber below contains from thirty-five to forty pounds in addition, it is much better to leave two shallow supers of honey. Colonies should be wintered in two full depth hive bodies if they can be obtained, but during the past two or three years they have not been obtainable in quantity, and many colonies had to be wintered with two shallow supers as food chambers where the hive body was not filled by the bees after the late brood emerged.

If sugar is available for feeding after the last honey flow it may be possible to fill the empty combs in the brood chambers so that such colonies will have sufficient stores with a shallow food chamber.

Strong colonies of bees will come through the winter without winter packing in most parts of this country if they contain plenty of young bees, ample pollen and honey. Packing may save stores but protection from strong winds is more important than packing. A sheltered location should be given or a wind-break provided all colonies. If they must be wintered in an exposed position and no windbreak is available, wrapping the colonies with tar paper, with folded newspapers over the inner cover, appears to be profitable. An upper flight hole provided by boring a hole through the upper handhold of the food chamber with a ⅝ inch bit, appears to have many advantages in the prevention of smothering when entrances are blocked with snow, and for winter flight.

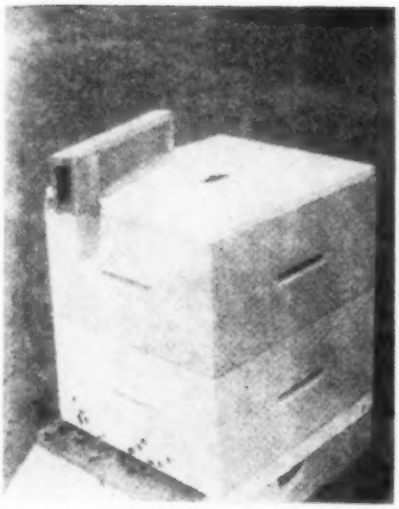
Massachusetts.

— V —

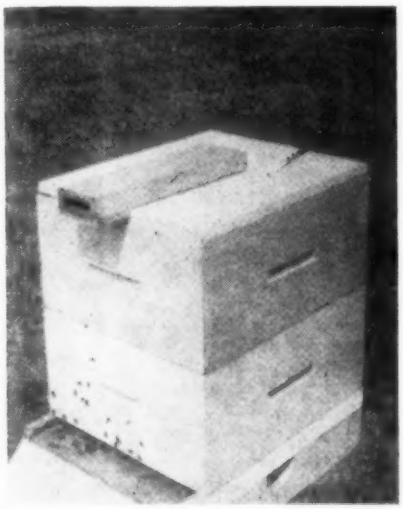
HONEY FOR EARACHE

Once I sold honey to a lady and on the next visit she said "That honey was worth its weight in gold. One of my boys had the earache so bad. I warmed up a little honey and put a couple of drops in his ear. It stopped the ache just like magic." Another use for honey.

Ed Swenson, Minnesota.



Hole in center of honey board; tunnel lying alongside.



Tunnel in place; colony ready for packing.

A TOP ENTRANCE FOR PROTECTED HIVES

By W. A. Finlay

LAST October there was an article on top entrances in American Bee Journal intended primarily for beekeepers who winter their bees in single walled hives. The great majority of beekeepers in British Columbia winter their bees in a standard Kootenay case with three inches of packing between the hives and the outer case and with six inches or more of packing over the top. The only cover used usually is the inner hive cover and the case cover.

These illustrations show a form of top entrance successfully used by many beekeepers in colder, northern and interior parts of British Columbia which allows for abundant top packing about them. The construction is simply a six inch tunnel with three fourths inch sides open at the bottom with a protecting bridge between the hive and the outer case. We prefer to have two bee escape holes in the inner cover for ventilation of strong or normal colonies. One may be covered for a weaker colony. It should be stressed that where the top entrance is used for wintering the bottom entrance must be entirely closed.

There are still a number of beekeepers who insist on leaving a small entrance at the bottom who do not realize that the admission of cold air there immediately destroys the effect of the top entrance; that the creation of a warm, dry atmosphere allows the slow natural upward escape of moisture.

A flight hole corresponding in size to the bridge of the top entrance tunnel is cut in the packing case. Hives packed in this manner will have few dead bees on the bottom board in the spring. Those that fall from the winter cluster are so dry and light that the live bees have no trouble in removing them through the top entrance itself anytime in winter when it is warm enough for a cleaning flight.

A top entrance costs but a few cents to make and is cheap insurance against comb damaged by mice as neither they nor any other pest can then enter the hive during winter.

According to the Dominion Bulletin "Wintering Bees In Canada" there are three points in favor of the top entrance. 1. They eliminate the danger of blocked entrances from dead bees, snow or ice. 2. They reduce the collection of moisture within the hives. 3. They reduce the possibiltiy of mice entering the hives.

British Columbia.

—v—

HONEY IN ICE CREAM

Mr. P. S. Lucas of the Section of Dairy Husbandry, Michigan State College, in their quarterly bulletin, has an article on honey in ice cream. His conclusions are that light or amber colored honeys with moderate flavor are generally better than buckwheat, sage or basswood.

The flavor imparted to ice cream by honey was noticeable when the sugar replacement reached 10% and increased until the replacement reached 100%. Ice cream made entirely with honey as a source of sweetening, seems to be quite popular in their College retail sales room.

The cost under present conditions is about 4 cents per gallon more for vanilla ice cream. Honey sweetened ice cream took slightly longer for freezing than that sweetened with sugar.

The article gives various pictures of honey replacing sugar, 25, 15, 30 and 35% in various mixtures.

WHAT DOES THIS MEAN?

This emblem stands for honorable service to our country. It should be instantly recognizable and millions of Americans must familiarize themselves with its significance. A man may have sacrificed an arm or a leg for the privilege of wearing it, yet many will not recognize the emblem when they see it on the lapel. If these veterans are to have the respect and the consideration they so richly deserve this Emblem should be as readily recognizable as the uniform they once wore. Do your part. Make it familiar to everyone.

—v—

PROUD

David, son of Editor Grout, is as proud of his first bee sting as some are of their first tooth. Standing right beside the culprit colony his smile just won't come off. Go to it, David. We hope this is not the last sting but the first of many.

The Answer

The following answers are taken from best replies of previous months.

How Do You Unite Bees?

We have used this method for twenty-two years without failure and with it we can unite two weak colonies, a weak colony to a strong one or a nucleus with queen to a queenless colony.

We use about an ounce of essence of peppermint to about a gallon of tepid water. Pour this into a large bottle with a sprinkler top.

If we are going to join a strong colony we first shake bees down to about five combs to reduce the number to be sprinkled, then sprinkle the bees not only on the combs but on the bottom walls of the hives, Then sprinkle the other bees on the combs to be united with this colony. If possible try to sprinkle the queen too. Return the remaining combs into the hive, put on the inner cover and the lid and by the next day the bees are working as if nothing had happened.

V. T. Hanus, Ohio.

— V —

The simplest way and the surest is by the newspaper method. Select and retain the best and youngest queen in one of the colonies to be united. Kill the poorer queen. In the evening place a newspaper on top of the bottom hive, punching a small hole in the paper with a pencil and set the second hive on top. The next day all the bees will be working through the paper harmoniously. In the dearth of honey a Boardman feeder at the entrance will secure the success of the operation.

A. B. Selliman, Iowa,
T. F. Slager, Iowa,
A. W. Burnham, Missouri.

— V —

I have very deep brood areas and strong colonies. When I have mean or poor colonies in the honeyflow, I carry the poor colonies to better ones and simply unite the poor ones with them by piling their brood combs and supers on top. The poor queens are killed by the bees and the field force from the poor colonies at their old location join nearby colonies.

To take care of colonies in spring that are drone layers or are queenless, I keep a number of young queens over the winter in standard hives by wintering on top of strong colonies to keep them warm. In spring, these are united with the queenless, or poor queen colonies where needed by the newspaper method, killing the poor queen first.

R. Selwyn Wilson, Idaho.

— V —

How Do You Prevent Robbing?

Here is a sure way: Cover up any honey which the bees are trying to rob. Start pulling grass, green or dry, and lightly stuff the opening of every colony which gives the bees time to organize. The robbers outside will not go through. In a short time, the entire yard will be quiet. The bees will take care of the grass.

F. S. Houston, Florida.

— V —

If you think a colony is being robbed, watch the entrance. If you see bees coming out and climbing up one or two inches on the hive body to take off, instead of flying right from the entrance, you can be sure that these are robber bees forced by the weight of their golden plunder to seek a higher elevation for a good flight.

Trace the robbers to their hive. Dab a little white enamel paint on the thorax of one or two of them, and on a sunny day you can easily find the hive from which they come.

Exchange the parent hive with the colony being robbed which gives the colony being robbed a large additional volume of field bees, and enables it to resist any further robbing successfully. The robbers will also be in the peculiar position of trying to rob their own hives.

James A. O'Connell, Mass.

— V —

Take excelsior like that the grocer receives, loosen it up a little and place it so that it will cover the hive entrance and extend a couple of inches above it. Pass a cord around it and the front board of the hive, tying it to keep the excelsior in place or brace sticks against it. If robbing is bad, sprinkle the excelsior with water. Next, throw over the hive a cloth or sack to completely cover all but the front.

The robbers trying to get through become entangled and find it hard to get out, the majority of them being disheartened, so discouraging them in their dishonest pursuit.

The robbers will find it impossible to get on to the hive and find a crevice because of the cloth, so any hope of getting in except by the front entrance is given up. This never fails in my apiary.

W. Leon Rogers, Mass.

— V —

Cyanogas quiets robbers quicker and more efficiently than anything I know of. I always carry a small jar and when robbers are troublesome, place a super of combs, preferably wet ones on top of a hive, put in some cyanogas on cardboard or what have you. Put on the cover, leaving a couple of inches opening, and then let them go to it. Repeat if necessary.

If robbers attack a weak colony, I move it and substitute another and stronger one in its place, proceeding with the robbers as before.

Otto Schulz, California.

— V —

How and When Do You Feed Bees?

Feeding bees is a necessary evil. I do not see how a queen breeder can dispense with feeding and much as I would like to get away from feeding I have not been able to do so. One must feed divisions and package bees and even some colonies.

I have tried different ways of feeding to reduce the labor and the risk and to avoid robbing. I have used Boardman feeders, No. 10 tin pails, 10 gallon chicken waterers to feed a short distance from the yard. Galvanized tubs of syrup also, with pieces of honey comb covering the surface for the bees to walk on. I still think the Boardman the best for package bees or to stimulate a young queen.

Now I fill brood combs with molasses and it requires less labor. For feeding packages in the spring I use fifty packages, use half water and half sugar mixed in boiling hot water.

For large scale feeding to supply a shortage of stores I use half gallon glass jars using a standard quart jar cap. I replace this lid with a metal foundation base like that used for watering baby chicks.

Estimate how much a colony needs. If it requires two gallons for the necessary stores remove the hive cover leaving inner cover in place, set on an empty hive body, give the colony four half gallon jars all at one time. Set the jars near the hole in the inner cover and replace the hive cover. Return a day or two later, remove the jars and extra equipment. Every half gallon jar of 50-50 feed will increase the stores of the colony about 50 pounds.

As to when feeding is done I usually start feeding at dusk or during a rainy day to avoid robbing.

Each spring I feed some pollen substitute using dry skim milk and soy-

(Please turn to uage 322)

EDITORIAL

WHAT NEXT?

NOW that history's most disastrous war has ended, we may well take stock of our position and make plans for the future. It is no time for boasting. Nobody wins a war and certainly this one is no exception. If we are inclined to boast that we saved Britain, we must remember that at the same time Britain saved us and that Russia saved both Britain and America. It took team work to defeat the Axis and it will take team work to make a worth-while future for the world. Our most important business is to learn how to work in harmony with Russia, Britain and other nations.

As to immediate prospects for the honey producer we can only judge by past events. Following a war there is usually a short period of feverish prosperity during readjustment when everything is in demand. We are told that never in the history of the world has a major war failed to bring a major depression within a few years. In the light of past history, we should take advantage of the prosperous time to pay our debts, improve our property and lay aside a reserve for the time of stress.

Because this has been the greatest of wars, we may expect that it will be followed by a corresponding period of great change. While we cannot avoid the consequences of a major disaster, the beekeeper who is free from debt will probably be in as good a position as any one can be.

—v—

WHERE WILL WE SELL OUR HONEY IN 1948?

HONEY is selling readily now and beekeepers generally are packing in glass and tin for the retail trade. Under present ceiling regulations, it is far more profitable for them to do so, even though they charge high prices for their labor and packing and are confronted with high costs in getting good, clean, clear palatable honey into their jars.

The wide spread between the 12 cent ceiling and price in smaller units is a temptation which many beekeepers feel they cannot afford to ignore.

We must remember, however, that if honey is ever to take its place in commerce as do other staple products, then we must anticipate that it must go through the regular channel trade, namely be sold in bulk to the jobbers or commissioned men then to the packers from where it would go through the regular channels back into retail markets. This is particularly true in the larger cities that cannot be reached by the individual producer and packer.

Naturally if the now organized packers are able to maintain themselves through this period, they will still be here for the era when honey again becomes available. The danger is, of course, that such packers may either get discouraged or from financial losses be forced out of the honey distribution game and then the whole thing has to be worked over again when honey again becomes available.

We merely present this picture for our readers which we believe to be a true one and with no axe to grind for the packer or against him.

—v—

LEAVE YOUR BEES WELL SUPPLIED

WE call attention, not only to our Canadian subscribers but also to our domestic subscribers, to the advertisement in these columns of the Sugar Administration of the Dominion of Canada.

Under their regulations, 15 pounds per colony of sugar for fall feeding to be allowed to all producers of honey on proper application.

However, the part to be stressed is that there will be no sugar for spring feeding. While we have no change in regulations of our own sugar administration, we urge beekeepers to leave plenty of honey on the hives, to crowd them this fall, so that in case of difficulty in getting sugar next spring, at least a majority of the colonies will be able to carry through until the spring crop. Naturally, this is good advice any time.

We readily realize that it is impossible for the beekeeper to fully carry out such advice. In the first place, the fall season may not be propitious for it. In the second place, the spring season may use up stores far faster than had been anticipated, and in the third place, we may have a spring such as the one we have just gone through where the early flows are held back by the inclement weather. Also there is a necessity of sugar for the feeding of packages, both for increase and for making up losses.

Nevertheless, the advice still remains good; leave plenty of honey on your hives for fall, winter and spring.

THE HONEY PLANT COMMITTEE

THE recent meeting of the Honey Plant Committee with specialists in horticulture, agronomy and soil conservation marks a new approach in the effort to solve the bee pasture problem. Last year the committee held its first meeting at Boyce Thompson Institute for Plant Research to consider ways and means of increasing the bee pasture. This year it was decided to meet with those who have need of honeybees in meeting their pollination problems to make plans for cooperative effort.

This time the meeting was held at Atlantic, Iowa, where the American Journal Test Garden is located. Two members of the committee are not beekeepers. Dr. Norma Pfeiffer, of the Boyce Thompson Institute, represents the scientific institutions and Dr. S. W. Edgecomb, of the Burpee Seed Co., represents the seed trade. Their contribution has been so helpful that it has been suggested that other groups be invited to serve also. It is thought that horticulture, agronomy, soil conservation and others having pollination problems might also be profitably represented on the committee.

Already good results are apparent from the efforts of the committee and it is thought that they will be able to make recommendations that will be helpful in all parts of the country.

The other groups represented at the recent committee meeting are as anxious to see prosperity in the beekeeping industry as are the beekeepers. The presence of large numbers of bees insure better crops for them, thus making their interests mutual. The cooperative approach to the bee pasture problem promises much for the future.

—v—

SOIL CONSERVATION

THE Soil Conservation Service has a program for building a prosperous agriculture for the long pull. To stop erosion requires that more land be seeded to meadows and pastures and that grass covered waterways take the place of open gullies. This agency does much to encourage the use of such plants as bird's-foot trefoil, alsike and white Dutch clover. In regions where this organization is active we can confidently expect a far more stable bee pasture. The campaign for pasture improvement will do as much for the beekeeper as for the farmer for whom it is planned.

How to Do It

QUEENLESS COLONIES

I have been a beekeeper all of my life and have had queenless colonies turn up frequently. Here is my solution for this trouble. Often you have a colony with quite a few bees that have lost the queen and has been unable to raise one of its own. A drone layer may develop and then it is almost impossible to introduce a queen or even queen cells.

If you have a colony with either supersedure cells or swarm cells choose a good cell from which the virgin is about ready to emerge and be sure the cell hasn't been punctured or that emergence has not actually started. Open the end of the cell with a sharp knife and allow the virgin to come out. Put her at the entrance of the queenless colony and do not molest her for ten days or two weeks until you are fairly sure the virgin will be mated and will have started to lay.

I have had complete success with this method. If by any chance the queen isn't accepted you will find her on the entrance. I have yet to see this. The secret of the operation is being sure that the bees of the colony from which the cell is selected do not molest the virgin or transmit the slighest colony odor to her before she is introduced.

E. L. Retan, Michigan.

— V —

STOCK SALT FOR GRASS

Ever try using stock salt to spread around hives to keep grass from growing? It works.

H. G. Kull, Missouri.

— V —

ROCK SALT

I note that one reader takes away top soil to keep weeds and grass down. A good brine or sprinkling of rock salt will do it with less trouble.

Charles Madison Wesner,
Maryland.

— V —

MAGNETIC NAIL PICK-UP

To save fingers, tempers and words of high voltage, make this little magnetic nail pick-up. Use a steel knitting needle, or a straightened steel spring made of No. 9 wire (about the size of telephone wire). Cut the wire to the length of six or eight inches and hammer one end to make it flat and one-eighth to three sixteenths inches wide. Drag the flattened end two or three times across one end of a permanent magnet such as can be obtained from an old magneto or from a radio loud speaker. All you have to do to pick up and place those two to five inch nails and tacks exactly where you want them, is to touch them with this tool, place them and hit them with a light hammer.

Tom Edwards, S. Dakota.

— V —

CUTTING A LIMB, WITH SWARM

Use a sharp pair of pruning shears to cut a limb up to one inch. It is better than a knife or saw and there is less chance of jarring the bees loose from their cluster.

William Wicht, Mississippi.

— V —

TO KEEP UNCAPPING KNIVES HOT

I use a small electric stove with a pan of water in which to submerge the knives. The stove is light weight, clean, takes up little space and does not run out of fuel when you are real busy.

Thos. J. Osborn, Oklahoma.

— V —

HONEY FOR RESPIRATORY TROUBLE

I read the April issue where Frank Guild speaks of honey for respiratory trouble. It reminds me when we were kids, mother used to mix flax seed and honey with a little lemon when we had colds and tonsilitis. They can say what they want but some of the old fashioned remedies are the best.

George S. Wootten, Illinois.

— V —

TO TAKE THE BITE OUT OF THE STING

Cold milk will stop the hurt as quick as anything I know of.

Eugene Forray, Indiana.

— V —

TO STOP HOLES

When I was a missionary in Liberia, West Africa, I had interesting experiences with native bees. In cutting a bee tree I found clay, mixed to the right softness with water, the best thing to use as a quick plug for openings while the tree was being worked.

H. T. Miller, Indiana.

— V —

SUPER AS SOLAR EXTRACTOR

I operate two solar extractors at times but sometimes these are not enough. Last summer I used a 10-frame empty super as a third one. I put the super on a flat surface in the sunlight. A piece of 5 mesh hardware cloth was arranged over a deep pan inside and a pane of glass on top. Results were surprisingly good.

Harry T. Starnes, Indiana.

THE ANSWER

(Continued from page 320)

bean flour, one part milk to four parts flour starting about two weeks before natural pollen becomes available. I use a rack holding several trays which fit inside an empty three story hive cover with a pane of glass. I use three-eighths inch wooden blocks to space all the supers of the feeder so the bees may enter and emerge freely. One filling lasts about a week for a yard of forty colonies. I enjoy watching the bees carry this and they are contented while doing it. I have marked many colonies which worked at it so feverishly and in all cases they were high yielding colonies in the flow.

Another plan I use is to save a few supers of sealed honey for early feeding.

Harry T. Starnes, Indiana.

— V —

I have proven by careful records that by feeding bees sugar syrup for winter I am sure of safe wintering and it pays me in the difference between the cost of the sugar and the honey the bees would eat, more than $4.50 an hour for my time and work and I consider it profitable. Even if honey brings no more than the cost of sugar it pays to feed syrup because there is no guess work as to quality of stores and you know that there are no better stores.

I never rob the brood chamber of any honey, regardless of what its quality may be, because the bees will not use it until after they go out in the spring and have frequent flights. There are always enough cells from the last emerged brood from the honey consumed after all outside sources end, to hold all the syrup needed for wintering bees in a good cellar and even for those bees wintered outside. Honey previously stored is better for rearing brood in the spring when bees can have frequent flights.

I prefer to use five pound honey pails with thirty-five or forty fourpenny nail holes punched in the lid because in almost every case these will be emptied the morning after they are given and the bees will have all day to store the syrup as they wish and be ready for another feeding at dusk the following day. Ten pound pails will not be empty especially if it turns cold and it disturbs the regular schedule of treating all colonies alike each day.

My feeding is done after brood rearing has stopped, not later than the middle of October, as weather permits. Syrup is mixed, two parts sugar to one water in the afternoon, put on the hives about dusk. I give them three feedings (total 15 pounds) and

as they consume an average of eight to ten pounds during the winter in my cellar, they have all of the honey stored the fall before to build up on the next spring. I do not have to feed the next spring; they have enough honey to carry them to fruit bloom.

I am just finishing my twenty-second winter with this plan without a single winter loss, thanks to sugar syrup and a good cellar "where all winters look alike."

C.H. Pease, Connecticut.

— V —

FOOD RESERVES FOR BEES

(Continued from page 317)

cluster in the top if the combs are dark and there is a small open center free of honey. This chamber should therefore contain dark brood combs, 7 or 8 of which are completely filled with sealed honey and 2 or 3 combs in the center that are half to two-thirds filled.

6. Colonies winter best when situated where they are protected from wind in a well-drained location exposed to maximum sunlight. An auger-hole entrance in front of the upper chamber favors occasional flights.

7. The feeding of the supplemented-pollen cake will enable colonies to rear brood in quantity regardless of the weather. Feeding can be done as early as desired, but uninterrupted brood rearing after March 10 to 20 produces colonies that reach full strength for a clover honeyflow. Either large pollen reserves or the cakes will increase honey consumption. It is good beekeeping practice, however, to convert honey stores into bees. Early nectar sources that are seldom recognized often allow strong colonies to replace most of the reserve stores they had consumed.

8. New colonies started with package bees also require adequate pollen and honey reserves. Packages established in April may need from 20 to 40 pounds of reserve honey and several hundred square inches of reserve pollen, depending on when they are put out and on the season or locality. Supplemented-pollen cakes should be fed when combs containing sufficient pollen are not available.

9. When the bees begin to gather new pollen in quantity, interchange the position of brood chambers to allow for upward expansion of the brood nest. If reserve-honey requirements were underestimated, feed heavy sugar sirup generously to good colonies.

10. It is essential to recognize that strong colonies will require more skillful management during the active season to utilize their productive resources than small colonies which build up on the honeyflow.

American Honey Institute

Commercial State Bank Building, Madison 3, Wisconsin

The American Honey Institute is widening its activities and its service to the industry.

It has enlarged its staff by selecting Miss Susan Hopp to assist the Director, Mrs. Harriett Grace.

Miss Susan Hopp is from the state of New York. During her high school days she was active in speech and dramatics, journalism and vocal music.

She is a 1945 graduate in Home Economic from Iowa State College with a Bachelor of Science degree. Her major is Experimental Cookery.

Miss Hopp comes to the Institute with excellent recommendations from her instructors at Ames and from those for whom she worked during her summer vacations.

To quote from Miss Hopp's own story of her life: "It was while at Ames that I developed a wholesome respect for the adaptability of honey to meal planning and preparation. Four years at college convinced me that the Mid-West was where I should prefer to work. The combination of my work here at the American Honey Institute with my favorite part of the country has made a perfect situation."

Institute Asks Favor

On October 1, the Institute will lose Mrs. Martha Horstmeyer, its efficient bookkeeper and stenographer. For this reason it will be a distinct favor if beekeepers will send in their dues before that time.

INSPECTION IN CALIFORNIA

We have just received the report of the supervising apiary entomologist, Mr. H. M. Krebs of the state of California, covering the year of 1944.

The first page of the report had to do with record of migration, interstate, inter-county and intra-county, covering the entire state of California. This shows that 10,000 colonies were moved into the state and 20,000 colonies out of the state during the year. Some 222,000 colonies were moved from one county to another and 135,000 colonies moved from one place to another within the county. The report shows quite conclusively how great the amount of moving California beekeepers do, skipping from one flow into adjoining pastures, very often greatly to their benefit.

The second report has to do with record of bee inspection. This shows 173,280 colonies inspected with only 2,040 diseased or a percentage of 1.18. On the whole the percentage of infection runs extremely low, the percentage of the entire lot being brought up by three or four outbreaks in various counties where the percentage of disease to those inspected ran as high as 23, 18, 10 and 6 per cent.

As usual with such inspection, the reports do not give a true status, inasmuch as heavy inspection is always concentrated in those areas where there is an outbreak whereas many other areas where conditions are relatively clean may be left to the efficiency of the owner himself.

Mr. Krebs is to be complimented upon his work in 1944.

— V —

FOREIGN PUBLICATION RESUMING

We have just received the April number of "La Gazette Apiocole" published by Mr. R. Alphandery in Montfavet, France. Also a letter from him announcing that he is back at his old location. The Germans took over his establishment to use it as a storage for munitions. On leaving, destruction of such munitions that they did not take, did considerable damage to the property.

Mr. Alphandery himself was with the resisting force and away from his home surroundings for more than two years.

The Production of Queen Bees

GRAFTING QUEEN CELLS-STOCKING NUCLEI

By E. C. Bessonet

GRAFTING queen cells is an art that must be developed before it is possible to transfer larvae to cells so that the bees will accept them. When larvae are injured, killed or not properly placed on the royal jelly in the cells, the bees will remove them and the number accepted will be in proportion to the number transferred in good fashion. The artificial cell is quite different from a natural one and bees readily recognize the difference. Some producers use the compressed wax cell, but I prefer a thin-walled, home-dipped cell that more closely resembles a natural one.

Authorities claim that the queen and worker larvae receive the same food the first three days from their hatching from the egg which means that larvae up to three days of age are just as good as those of a younger age. I prefer larvae twenty-four hours old. Most queen producers agree on this point. Queen cells may be stuck to the frame bars with hot wax. An ordinary old time house lamp under a box with a hole in it to melt beeswax placed above in a small can will serve the purpose.

It is possible to graft larvae without royal jelly, but the best plan is to get queen cells about three days of age from which to obtain a little jelly to prime the grafting cells. A little warm water is needed to dilute the jelly and one good queen cell will supply enough for seventy-five grafting cells. Only a small drop is needed. This should be placed right in the bottom of the cell without smearing it around. This provides a nice bed on which to lay the larva and during the transfer of the larva be careful not to bury it in the jelly. If the larva can be placed in the same position in the cell that it had in its original one the chance of its being accepted is much better.

At the start of the grafting season when royal jelly is not readily available the best way to obtain some is to graft a few cells primed with a drop of water and after three days some cells will be found with jelly with which to prime the others. Occasionally a supersedure cell is found and from it the jelly may be obtained for grafting.

Any slight jar will dislodge the larva from the bed of jelly and result in poor acceptance. Be careful to avoid rough handling of cells in all stages, even when ripe cells are removed from the cell colonies. Unless the cells are removed ten days after grafting, virgins will start to emerge and cause serious damage to other cells, engaging often in a free for all fight with the loss of many cells and queens. All operations must be timed and there must be no delay in giving attention.

The future of the queen depends on the three day feeding period before the queen cell is sealed. After that time nothing can be done to overcome any deficiency that might exist. This means the use of a strong colony, the presence of incoming nectar, or a syrup supplement, incoming pollen, stored or supplemental pollen feeding.

Some kind of record must be used to keep track of grafted cells so they may be easily located when they are ripe. By numbering the cell colonies and the frames it is easy to mark in a book which cell colony the number one frame is in.

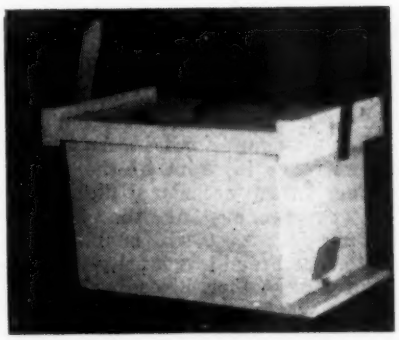
Stocking Nuclei

The job of stocking nuclei may be done in many ways. After many years of experiment I developed a stocking cage which is widely used in this part of the south. It permits ventilation during hot weather and as many cages may be filled as are needed to take care of cells on a given day. If the queen cells are counted ahead there is no guess work.

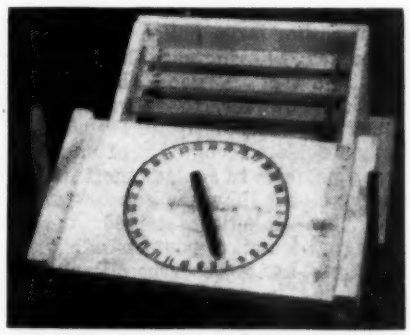
The cage is made to fit over the top of the nucleus. It has solid sides, screened top and solid bottom with a hole like in a bee shipping cage. The bees are shaken into it in the yard and brought to the queen yard. On arrival the cages are placed near the nuclei. The nuclei are than closed, frames put in, feeders filled; then the cells are put in. After this is done the bees are ready to be installed in the nuclei.

Sometimes the bees are nervous and spraying a little syrup over the screen quiets them. The lid over the stocking cage is pulled off after the cage is shaken to get the bees on the screen side. Then the cage is turned rapidly over the open nucleus. If the weather is cool, place the nucleus cover flat on the top of the cage. When the weather is hot, pull the nucleus cover back so the end piece nailed under the front will rest on

Stocking cage on top of nucleus.



Nucleus, with indicator up.



Nucleus, open to show marking device and inside frames and division board feeder.

the stocking cage for ventilation. Be sure to move the date indicator to the right date and lower the end indicator out of sight to show a cell has been given.

The bees should be kept confined in the nuclei at least three days so they will settle on the combs and be contented with their new home and the young virgin. Never release them in the middle of the day. They rush out and drift. Do it just before or after dark. You will get uniform stocking of the nuclei and they will produce good results.

On the fourth day after the bees have settled, feeders should be filled

again in the nuclei and refilled as often as necessary until the bees have built up a reserve of food in the comb. Never handle a nucleus roughly or use much smoke. After the fourth day the stocking cages may be removed from the nuclei and used again.

There are other methods of stocking nuclei. Sometimes standard hive bodies with a screen bottom and a screen top are used to hold ten or twelve pounds of bees. When the bees are thus brought into the queen yard they are fed heavily and scooped up in a cup holding about a pint or more of bees which are dumped into each nucleus. One man carries the bees, another lifts combs so the bees may be dumped in and the combs put back empty. During cool weather no special ventilation for the bees in the nuclei is necessary but in hot weather nuclei are usually placed in a building or in the shade until it is time to release the bees.

A variation of this method consists of shaking the bees in the screened hive down, removing the top screen and stacking three supers over the body of bees so the bees will settle on the combs and may later be gently transferred to the nuclei, the cell being put in at the same time.

Too much syrup may be given to the bees, seriously lowering their life span. Bees in nuclei should live at least one month from the time the nucleus is made.

We prefer the stocking cage. The number of them required may be estimated by figuring how many nuclei will be stocked on an average every day and multiplying this by three, since this is the number of days each cage will remain on a nucleus. With good care stocking cages will last for years so there is not much investment tied up in them.

A rack built to hold the cages in the truck will keep them safe and allow ventilation in transit.

Louisiana.

—v—

OUR COVER PICTURE—GOLDENROD

Goldenrods are among the most widely distributed of our native plants and they are peculiarly American. All but two or three of the eighty species belong to North America. They are found from the far north of Canada to Mexico and from Maine to California.

Relatively little honey is reported from goldenrod in the Mid-west but it is an important source of nectar in the Northeastern States from Maine to Ohio. Some surplus is gathered from goldenrods in the higher altitudes of Nebraska in the sand hill area. In the southwest the closely related Chrysothamnus, commonly known as rabbit brush is present in great variety over a wide expanse of desert country where it yields an abundance of straw colored honey.

In New England the goldenrod in one or more of its species provides a very dependable honeyflow of moderate intensity. The honey of a golden color is heavy body with decided flavor and granulates readily. The bees are generally reported as wintering well on goldenrod stores.

Much goldenrod honey is reported from Eastern Canada where a super or more of surplus honey is commonly gathered in late fall. Farther south goldenrod honey is mixed with that from aster to such an extent that it is often difficult to estimate how much may come from either plant.

—v—

LATE SEEDING REDUCES WEEVIL DAMAGE TO CLOVER

J. A. Munro has conducted some experiments which conclude that sweet clover injury is greatly reduced by late planting of the seed.

In early spring the overwintered weevil which feeds on the leaves of the sweet clover plant may be very abundant and devour the leaves almost as fast as the they are produced.

Such destruction almost surely means the complete loss, especially of seedling plants. The weevils disperse themselves about the last week of April or well into May.

Thereafter, the activity and number of weevils greatly diminishes; also the eggs of the weevil are laid at the base of the plants mostly during the latter part of May and early June.

By planting not earlier than the middle of June, it was found that the percentage of weevil in the sweet clover plantings was greatly reduced and showed the relationship of the sweet clover weevil to its environment, both in plant feeding and in egg laying. As to the stand of sweet clover, there can be either a complete failure or a satisfactory stand, depending upon the time of seeding.

The Bi-monthly Bulletin of North Dakota Agricultural Experiment Station in which Mr. Munro's article appears also has in the same number, November-December 1944, an article on the biology and control of the sweet clover weevil by Mr. Munro and associates.

—v—

HONEY PRICE REGULATIONS AMENDED

RMPR-275, Amendment 1, was issued by the Office of Price Administration, July 3, 1945, the effective date being July 2, 1945. The amendment is entirely concerned with the sale of bulk honey, both domestic and imported, redefines a dealer, and gives new definitions for an importer and an importer-broker. There is no change in so far as the sale of bulk honey produced and sold by the beekeeper-producer.

A "dealer" is now defined as a person actively engaged in buying and selling domestic or imported bulk honey at a regular place of business, performing the services customarily performed by an established honey dealer, and entitled to dealers' maximum prices on sales of honey only: (1) if he bought it; (2) if he warehoused it; and (3) if he sells it with full responsibility for its delivery according to specifications. A dealer shall not pay a refund, bonus, or any other consideration over the producers' maximum prices or divide any part of the selling price with the producer or any other person except as provided for cooperative associations governed by Supplementary Order 64.

The above definition of a "dealer" is more exacting. The previous definition stated that a "producer cannot be a dealer with respect to honey which such producer produces, but may be a dealer with respect to honey which he has purchased in the normal course of trade or business from another producer or dealer to supply requirements of his customary trade in excess of his own production." The principal difference in the new definition is the he must warehouse the honey.

The important change in the amendment concerns dealers' maximum prices on sales of imported bulk honey where an increase of ½ cent per pound is granted. Thus, dealer's maximum prices for imported bulk honey are now only 1 cent less per pound than domestic bulk honey (Previously there was a difference of 1½ cents per pound); when processed from 60 pound containers, ½ cent per pound less; and when processed from barrels, at the same price level as domestic bulk honey. The amendment thereby brings dealers' prices on imported bulk honey more in line with dealers' prices on domestic bulk honey.

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Meetings and Events

Research Program Proposed

On June 22 your Federation was represented by its secretary at a conference in Washington, D. C., of the representatives of a number of national organizations with Mr. P. V. Cardon, Administrator of the Agricultural Research Administration of the United States Department of Agriculture. This conference represented a united effort to gain consideration for an expanded program of research in improvement of forage crops including legumes and increased seed production, together with studies of nectar and pollination studies related to seed production.

Cooperating in plans for and represented at the conference were representatives of the American Seed Trade Association, the Field Seed Institute of North America, the international Crop Improvement Association, the National Council of Farmer Cooperatives and the National Federation of State Beekeepers Associations. In addition to Director Cardon and Dr. W. V. Lambert of the Agricultural Research Administration, the Bureau of Plant Industry, Soils and Agricultural Engineering was represented by Dr. R. M. Salter, the Bureau of Entomology and Plant Quarantine by Dr. P. N. Annand, and the Division of Forage Crops and Diseases by Dr. O. S. Aamodt, all chiefs of their respective bureaus and divisions. Thus this probably represents the first time that honey producers were represented in a united effort with a representative group from as many other fields of agricultural endeavor.

The chief impetus behind the conference was due to the present and recurring extreme shortage of adapted seeds of many important legumes used for pasture, hay, and soil improvement. While Congress appropriated over 25 million dollars in 1944 to seed producers as incentive payments, the situation was only temporarily helped. It was felt that reasonably satisfactory solutions could be found through well-supported, well-conducted and coordinated research programs directed toward the solution of seed production problems and the development of improved superior strains.

We quote from letter addressed to Secretary Wickard of the Department of Agriculture under date of April 20.

"Forage crops, and especially the biennial and perennial legumes, are the key plants of a permanent, profitable agriculture. Their crop value is enormous, but hardly less important are their constructive values in soil improvement and conservation. The need is great for new strains, which should be more resistant to cold and heaving, more resistant to disease and insects, better able to produce forage in the hot periods of summer, and more productive in quality and quantity of both forage and seed. Longer lived types suitable for grazing in pastures and meadows are urgently sought. It is reasonable to expect that, by modern methods of breeding, new strains may be obtained which overcome, at least in part the shortcomings of varieties now available."

While the sum of $350,000.00 had been suggested as the amount of the annual appropriation, at a conference of the national groups on the morning of June 22, previous to the conference with Director Cardon, it was decided that since the crops included in the original idea or plan were chiefly those of forage value in the northern states, that therefore the program should be expanded to cover forage crops of the southern states, particularly in view of the changing system of agriculture in many southern areas. In view of this an additional $150,000.00 was added to the request to be proposed.

At the actual conference with Mr. Cardon, Director of the Agricultural Research Administration, the various organizations previously listed presented their views on the proposed research program. When your Federation secretary was called upon he expressed the interest of beekeepers and honey producers in the program, endorsing the idea of including the southern legumes in the studies because of the value to southern beemen both as producers of honey, and packages and queens furnished to northern honey producers. We pointed out that beekeepers were particularly interested in legumes because of most of them being good honey plants. The importance of a study of nectar and pollen production as related to seed production was also stressed. Knowing that Director Cardon hailed from Utah, we cited the cooperative efforts of Utah fruit growers and honey producers in their attempt to solve the spray poisoning menace and expressed the hope that some research might be conducted in order to save the bees from spray poisoning that they might perform the necessary pollination service in all seed production programs.

Director Cardon, while sympathetic

and apparently in accord with the proposed research program, pointed out that any requests made to the Bureau of the Budget could not be released before the budget was actually published as that of the President of the United States in September. In case a satisfactory amount is not actually included in the budget, it is planned that representatives of the various national groups will request a hearing before the budget committee.

Of course, actual inclusion in the budget does not mean passage of an appropriation. Hence honey producers are requested to contact their Congressmen during the summer months informing them of the importance of such a program of research to develop forage crops and improve seed production. The benefits to beekeepers will come thereafter. The amount of the appropriation is insignificant compared to the millions given for incentive payments with little permanent results, compared with the results from fundamental research in development of strain and improvement of seed production methods.

—V—

East Tennessee

The East Tennessee Beekeepers Association met at the home of Joe Baxter, 3 miles east of Greeneville in Greene County, Tennessee. The Association was formerly known as the Greene County Association, but the name was changed last year.

Professor G. M. Bentley spoke on Recent Progress in Beekeeping in Tennessee. Mr. W. T. Walling, former State Apiarist, reiterated some of his experiences as State Apiarist, and John M. Amos, State Apiarist, spoke on How to Develop Beekeeping in Tennessee.

A short business meeting was held at which Joe Baxter, Greenville was elected president; H. L. Bashor, Sevierville was elected vice-president and J. B. Brooks, Greeneville secretary and treasurer.

A picnic lunch was enjoyed at noon followed by watermelon in the late afternoon. The meeting was well attended.

—V—

Illinois Summer Meeting

The Tazewell County Beekeepers were host to the summer meeting of the Illinois State Beekeepers Association at Pekin, Illinois on July 22, Sunday.

About 75 to 100 were in attendance, mostly from the surrounding counties. The crop was reported as much better than last year and to the north where rains have been sufficient, the crop promises to be almost in the "bumper" class.

V. G. Milum of the University of Illinois, W. C. Roberts of the Bee Culture Laboratory Field Station at

PETTIT'S PACKAGE BEES and QUEENS

Orders for 1946 are being booked freely, subject to agreement on prices in November.

Pettit's beautiful Italian queens have been very popular this summer. We will have them till the end of September only.

One Dollar each for the first eleven. Twelve or more are 90c each, U. S. Funds only. Cash with order.

Spring queens sold only with packages till the end of May.

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1 to 3, 90c each. 4 to 11, 80c each. 12 up, 75c each. 100 or more, 70c each
Will ship in lots to suit your needs.
Twenty odd years of selective breeding for hardiness, productivity and other qualities you will like when you stock "HONEY GIRL" Italians.
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ITALIANS **QUEENS** **CAUCASIANS**
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90 CENTS EACH, BALANCE OF SEASON

2-Lb. pkg. bees with queen $4.00
3-Lb. pkg. bees with queen 5.00
Over 25 years a shipper in U. S. A. and Canada. Send for free circular

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PRICES—QUEENS

1 to 24	$1.10
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100 up	.90

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Important Notice

to

Canadian Beekeepers

1. Sugar will be granted ONLY to those beekeepers who produce honey for SALE, and who have registered with the Ration Administration.

2. A maximum of 15 pounds per colony may be granted for the fall feeding. No sugar will be available for the spring feeding.

3. Because world sugar stocks are dangerously low, Canada is reducing its consumption by nearly 200,000,000 pounds this year. This is being effected by a cut in the consumer ration, a further reduction in the sugar made available to industrial and quota users and a revised plan of distribution to beekeepers.

Sufficient stocks of honey should therefore be retained for both fall and spring feedings, and beekeepers are hereby warned to make their plans accordingly.

SUGAR ADMINISTRATION

THE WARTIME PRICES AND TRADE BOARD

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2-lbs. bees and queens	$3.60
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Madison, Wisconsin, I. E. Wilson of Pekin, Carl E. Killion, State Inspector, C. F. Bayles, County Agent and M. G. Dadant were the principal speakers. Without exception, the beekeepers were planning on distributing their own honey and perhaps for the first time in several years, there will be considerable comb honey for disposal.

—V—

Glenn O. Jones,
New Federation Secretary

As of September 1, Mr. Glenn O. Jones of Atlantic, Iowa, will assume the Secretary-Treasuryship of the National Federation of State Beekeepers Associations, succeeding the undersigned who had accepted the position on an acting basis until a permanent secretary was available.

Mr. Jones needs no introduction to mid-western honey producers. He now is President of the Iowa State Beekeepers Association and a member of the Federation Honey Plant Committee. With Frank C. Pellett as host, he has just turned in a commendable job of organizing and conducting the Honey Plant Conference at Atlantic, Iowa, the results of which are predicted, by those in attendance, to have great future importance for beekeepers.

Mr. Jones who has not yet seen his half-century birthday, originally a farmer, but in recent years a postal employee, will resign that position to devote nearly full time to Federation problems. Mr. Jones is a practical and independent beekeeper of years experience and is now taking active part in the bee-breeding program of the Iowa State Beekeepers Association in whose behalf he recently made a trip to visit southern breeders cooperating in the program.

Mr. Jones is full of pep and enthusiasm for the future of beekeeping. We bespeak for him complete success in the handling of the affairs of the National Federation, but we urge the complete cooperation of all individuals. The membership roll of the Federation now includes 36 state and 7 county associations together with 442 individual $5.00 members. One of the biggest problems of a secretary-treasurer is the rustling of finances to cover the necessary expenses, so let us all relieve Mr. Jones of this less pleasant duty in order that he may concentrate his energies upon the more important problems and services possible from a national organization. Therefore, let us make that individual membership 1,000. Do it now.

And in conclusion, the undersigned wishes to express his gratitude and appreciation to all who have contributed in any way to the development of the Federation to the present from which under the management of Mr. Jones we predict continued success.

V. G. Milum,
Retiring Sec'y-Treas.

—V—

Robert H. Walstrom

Robert H. Walstrom, one of the leaders in Nebraska beekeeping for many years, died Saturday evening, July 14, at the Veteran's Hospital in Lincoln, Nebraska after a long illness.

He had been a life long resident of Omaha, where he was a prominent apiarist. Many Omaha people were familiar with "Uncle Bob's Honey." He took a leading part in bringing about the passage of the present Nebraska Bee Law. He also did much to make a success of the American Honey Producers League meeting, which was held in Omaha a few years ago. Many beekeepers will remember him as the Master of Ceremonies at the banquet.

Mr. Walstrom was active in many organizations, having been past President of the Nebraska Honey Producers' Association; past President of the Monroe P. T. A.; a member of the Nebraska Lodge No. 1, A. F. & A. M.; of Benson Post No. 112, American Legion; and had been district Scout Commissioner in Benson. He had also served his county as accountant in the County Treasurer's office and at one time as Deputy Sheriff.

He left his wife, Sadie E.; sons, Lt. Robert J., who is to return in August from Germany, and Clifford J., who is operating his apiary. Also, a daughter, Mrs. Fred J. Beck and a brother Arthur C.

L. M. Gates,
State Apiary Inspector.

—V—

Floyd, New Minnesota Inspector

Mr. C. D. Floyd has been appointed Assistant State Apiarist in the Division of apiary Inspection of Minnesota under the direction of Mr. T. L.

Italian Package Bees and Queens

2-lb. package with queen	$4.00
3-lb. package with queen	5.00
Queens, each	1.25

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24 to 99	3.75	4.80	5.85	1.15
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We are distributors of Staley's Lo-Fat High Protein expeller processed soy flour for beekeepers. We offer the finest quality in our soy flour and pollen traps.
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Illinois Honey Producers Assn.
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Aamodt, Director of Plant Industry and State Entomologist for Minnesota.

Mr. Floyd, we are sure, will meet with a favorable reception on the part of Minnesota beekeepers. He is the son of Mr. L. T. Floyd who has for many years been Extension Entomologist in beekeeping for the province of Manitoba with headquarters at Winnipeg.

— V —

New Rochelle (N. Y.) September 16

A meeting of the New Rochelle Association will be held at the home of Lieutenant Hildreth T. Winton, 23 Mayhew Avenue, Larchmont, New York on Sunday, September 16, at 2:30 P. M. Probably the topic for discussion will be extracting honey. There will be a report also from the committee on the use of poison sprays.

A. M. Barnes, Ass't Sec'y.

— V —

Bronx County (N. Y.) September 9

The Bronx County Association will hold its regular monthly meeting on Sunday, September 9, 2:30 P. M., in the reptile building in the Bronx Zoological Park upon invitation of Braydon Eddy, entomologist of the Bronx Zoological Society.

Mr. Eddy will show an interesting exhibit of a bee tree transferred from the ground and installed in a part of the reptile building. He will also show and explain venemous insects, including widow spiders and others.

Harry Newman, Sec'y.

— V —

Middlesex County (Mass.) Sept. 29

The final outdoor meeting of the Middlesex County Association will be Saturday, September 29, 2 P. M., at the home of Mr. and Mrs. Ellis F. Colgate, Concord Road, Billerica. The residence is the fifth house on the left of Concord Road from Billerica Common.

This meeting should prove very interesting. Hives will be opened, questions answered and a picnic lunch served. Dr. James L. Brann of Poughkeepsie, New York will speak on bees and spraying. Bring your lunch, also cups for coffee, plates and spoons for ice cream, folding chairs and stools.

H. R. Stevens, President.

— V —

Charles J. Anderson

It is with regret that we record the passing of one of Illinois' successful beekeepers, Charles J. Anderson, Morris. Charley, as we called him, was born in Chicago, July 19, 1868, son of John A. and Hanna Samuelson Anderson. He came to Grundy County, in 1892 and lived in Morris since 1914.

He never married. He is survived by a sister, Mrs. Margaret C. Ellerman and a brother, Thomas F. Anderson, both of Morris, and many friends among Illinois beekeepers. Edney Hendrickson of Morris purhased the Anderson apiary.

Wesley W. Osborn.

— V —

John N. Koritz

We regret to advise our readers of the death of John N. Koritz of Buckley, Illinois which occurred on July 25. Mr. Koritz was a honey producer of note, a deputy inspector for bees in Illinois at one time, and prominent in Association activities in eastern Illinois. Our Illinois readers will join with us in expressing sympathy to the family for the loss of Mr. Koritz.

— V —

Prominent New York Beekeeper Dies

We regret to announce to our readers the death of Mr. C. B. Howard at Geneva, New York on August 10.

Mr. Howard has been prominent in New York beekeeping since the early days, having been both an extensive comb honey and extracted honey producer. He has been a correspondent of the American Bee Journal since we established it bringing it down from Chicago in 1912 and we are sure that he had many years of beekeeping previous to that.

Time is too short to get a complete obituary. We join with the New York beekeepers in our condolences to the family.

— V —

Southern Conference In January

"Plans in making for greatest Southern Conference convention ever held in January. President Puett has invited National Federation joint meeting."

The above is from a message just received from A. D. Hiett of Virginia, in charge of publicity for the meeting. The lifting of restrictions on gasoline, and the shifting of the meeting from late fall to mid-winter will make a trip to the South attractive to northern beekeepers, if tires and rail travel can also be lifted sufficiently by that time.

At the last meeting of the Southern Conference, Georgia was picked for the next conference annual meeting. And the choice is apt since Georgia has a live state association and has recently selected both extension and research men in beekeeping. The Coastal Plain Experiment Station at Tifton has recently recognized beekeeping as one of their major projects.

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QUEENS 75c Each

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Young 3-banded laying queens, fresh from our yards; health certificate with each shipment. Shipped daily from Paducah.

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BETTER LUCK NEXT TIME

To our many customers comes thanks for a grand season. To those who still need queens, we can only say "better luck next time." We are now booked for our entire output for the rest of 1945.

Remember, next year, and place your orders for packages and queens early. Shipping dates are rapidly being filled. We will answer all inquiries promptly. We have been specializing in package bees and queens for more than thirty years and our reputation is at stake on every order. We want to keep it good.

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This is a market which energetic merchandising has developed and one which only a sustained marketing program can hold in the months and years to come.

That is why we say the future honey market is being built today

It is being built by honey packers whose extensive sales promotional activities are popularizing honey both as a food for the table and as a cooking ingredient in the home kitchen and commercial establishment.

It is being built by honey producers who realize the vital importance of CONTINUING to keep large volume distributors supplied with the quality product to which honey users have become accustomed.

As in the case of nearly all food products, profitable marketing of honey is almost entirely a matter of volume distribution, and volume distribution depends upon multiplication of sales outlets.

One of the principal reasons for Sioux Honey's consistent growth through the years, is the Association's carefully prepared merchandising program . . . a program that has been responsible for the sale of millions of pounds of high quality honey, processed and packed by the Sioux Honey Association under brand names which become household words in thousands of homes—Sioux Bee, 3 Bees and Clover Maid.

We invite you to market your honey through the Sioux Honey Association

You are invited to become a member of the Association and cooperate with us in our effort to stabilize the beekeeping industry. You can have a share in building tomorrow's honey market by marketing your honey today through the Sioux Honey Association, one of the oldest and best managed cooperative organizations in the industry. Write for information without obligation.

SIOUX HONEY ASSOCIATION

Lima, Ohio **Sioux City, Iowa**

CROP AND MARKET REPORT

Compiled by M. G. DADANT

For our September Crop and Market Report, we asked reporters to answer the following questions:

1. Total crop compared to 1944?
2. Prospects to come?
3. Will there be much requeening?
4. Much honey going to packers?
5. What per cent sold retail locally?

Crop Compared to 1944

It is the writer's estimate that the total crop for the country this year will exceed 1944 by ten to fifteen per cent. This in spite of the fact that some of the heaviest producing areas are not as good as last year. The New England states will have about the same production as last year with New York somewhat better, ranging much heavier in eastern and northern than in central and western New York. Pennsylvania is having quite a satisfactory crop with the volume dropping down from Maryland south clear through to Florida with likely not over 60 to 75 per cent of last year in this entire territory, North Carolina and Georgia seeming to be the hardest hit. As we go westward across Alabama, Mississippi and into Louisiana, the crop has been much better than a year ago, perhaps 150 per cent. Texas varies but some sections have much better than last year, others somewhat less with likely a better than last year's crop for the average.

Ohio fared poorly last year and will do well to get as much this year and this also applies to Michigan where, however, reports are spotted and where letters seem to indicate that the crop is still coming on and may approach last year. Indiana is about similar to Ohio. When we reach Illinois, Wisconsin, southern Minnesota and Iowa, also northern Missouri, and including the eastern sections of Kansas, Nebraska and Oklahoma, however, we find quite different conditions. Here the crop in general has been far better than a year ago and will range from 150 to 300 per cent of as much as in 1944. Northern Minnesota will have at least as much if not more, but the Dakotas will probably have difficulty in reaching last year's totals. The eastern slopes of Colorado, Mexico and northern Wyoming, as well as Montana, indicate much under last year, perhaps not over 50 to 75 per cent while southern Wyoming and western Colorado and extending into Utah will be considerably better than a year ago, probably 125 per cent. Idaho may range somewhat better than 1944 but Nevada will be short.

The states of Washington and Oregon seem to be somewhat better than a year ago, but California again is extremely short, likely not over 50 to 75 per cent of what was obtained in 1944. It is the Central West which is going to make up for the deficiencies in other sections, even though some of these are heavy producing areas.

In Canada, British Columbia is a steady honey producer. Alberta and Saskatchewan seem to be falling short whereas in Manitoba the crop is late but looks like it will be above last year. In the eastern provinces including Ontario and Quebec and the maritime provinces, the conditions are below last year so the total Canadian crop looks like it would have difficulty in reaching 1944 totals.

Prospects

All in all, prospects we believe are far better than they were a year ago although not flattering except that the crop is late and sweet clover and alfalfa are still yielding where last year they ceased to yield much before September 1. Also in central western areas bees are in good condition, many of them just now building up to producing colonies where they failed in the spring crop. Fall crop prospects look desirable with plenty of rain throughout the central western territories and extending into the East.

Requeening

This question was asked with the idea that a long and difficult season would develop failing queens. However we do not find that beekeepers are requeening much more than usual although the colonies themselves are superseding their queens in far greater numbers. The beekeepers in general seem to be depending upon the colonies to do the work especially with the shortage of labor that is encountered.

Honey Jobbing

Wherever the cooperatives are active, we find the beekeepers turning to them with the larger proportion of their honey although probably 10 to 20 per cent is set aside for retail sale. Otherwise not a great deal of honey is being jobbed and the packers are having difficulty in laying aside sufficient to take care of their needs during the entire winter season. We find some honey being jobbed from Montana, some from Colorado and California and some from Florida and much from Texas. It is, of course, the large producers located in the sparsely settled areas who are jobbing and only those who are not now members of cooperatives. No doubt the jobbers' problem is going to be increased by the fact that Europe is now taking much of the South American and Central American honeys at a price even in excess of our domestic prices.

Local Demand

The local demand is what might be called "terrific." Bee supply, tin can and glass jar dealers are having difficulties in keeping stocks as the moderate sized beekeeper is finding that he can dispose of his entire crop locally for canning, preserving, locker use and for daily use in cooking and on the table.

As a result, there probably never was such a demand for five and ten pound glass jars and tin pails and even for the 1 pound and 2 pound jars.

Summary

All in all, again we reiterate that we believe the entire crop for this year is going to run 10 per cent to 15 per cent in excess of 1945, partly because of more bees to harvest and because conditions have improved steadily through late July and August, whereas last year the crop was cut off quite promptly by August 1. Shortages in California, southern and northern intermountain and in Michigan and in the entire Southeast are to be made up we believe by the heavy crops in the central South and in the central western area extending as far as the plains.

As for disposing of the crop, it will be merely a matter of choosing customers rather than worrying over how to dispose of it.

HONEY WANTED Cars and less than cars Top Prices
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HIGHEST PRICES PAID
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One Can or a Carload—What have you? Mail your offerings to us.—Prompt action. Cash on delivery.
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1204 W 12th St. Kansas, city Mo.

• THE MARKET PLACE •

BEES AND QUEENS

CAUCASIAN QUEENS—gentle, high producing bees. H. E. Crom, P. O. Box 424, Manteca, California.

QUEENS—Caucasian and Carniolan, balance of season. $1.00 each; one hundred $90.00. Tillery Brothers, Greenville, Alabama.

GOOD QUEENS FOR SUMMER AND FALL REQUEENING. Gentle three banded Italian stock that has made outstanding records for honey production in areas where large crops are made. We now have the experienced help necessary to give you good queens and prompt service. Select young laying queens, $1.10 each; 25 to 99, $1.00 each; 100 or more, 90c each. Postpaid. H. C. Short Fitzpatrick, Alabama.

THREE BANDED ITALIAN queens of finest quality. 1 to 25, $1.10; 25 to 50, $1.05; 50 up, $1.00 each. Satisfaction guaranteed. Health certificate with every order. Alamance Bee Co., Geo. E. Curtis, Mgr. Graham, N. C.

WE CAN NOW SUPPLY you for balance of season with our Caucasian queens at $1.00 each up to 25 queens. For larger lots prices on request. T. L. Nicolaysen, Salida, California.

REAL PETS—Brown's non-stinging bees can be handled without smoke and veil, regardless of weather conditions, good honey gatherers. Only queens sold. Price this season $1.25. Brown's Apiary, Cape May Court House, N. J.

GOLDEN QUEENS finest quality. Fine workers. Untested $1.25 any number. Carolina Bee Farm, W. O. Curtis, Mgr. Graham, North Carolina.

PACKAGE BEES, QUEENS, Italians. Circular free. Crenshaw County Apiaries, Rutledge, Alabama.

HONEY AND BEESWAX WANTED

HONEY WANTED—All grades, carloads or less. Also beeswax. Pay top prices. H. & S. Honey & Wax Company, Inc., 265-267 Greenwich St., New York 7, N. Y.

WANTED—Extracted clover honey in 60's. B. I. Evans, Windom, Minnesota.

CLOVER HONEY WANTED—Top prices for extracted, section, and shallow frame comb. Any quantity. State whether you can deliver. KEDASH BROTHERS, Chillicothe, Ohio.

WANTED—Carload or smaller amounts of honey. Cash paid. Schultz Honey Farms, Ripon, Wisconsin.

WANTED—Extracted honey. Send sample if possible and quote prices. We also have good used 60 lb. honey cans for sale. J. Wolosevich, 6315 So. Damen Avenue, Chicago, Illinois.

WANTED—Comb and extracted honey. Clifford H. Denny, 483 Moody Street, Akron 5, Ohio.

WANT TO BUY white clover or light amber honey 1945 crop for spot cash. State quantity and price wanted. Roscoe F. Wixson, Dundee, N. Y.

WANTED—All grades of honey, carloads or less. We pay ceiling prices in cash, call for it or arrange for shipment. Sell your honey to us and we will stick by you always. The Honey Moon Products Co., 39 E. Henry St., River Rouge 18, Michigan.

COMB HONEY WANTED. State how packed and the quantity you have. Frank H. Hauck, P. O. Box 84, Kew Gardens, N. Y.

COMB HONEY, section or bulk, also extracted. Quote prices for quick cash. Lose Bros., 206 E. Jefferson, Louisville 2, Ky.

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

Rates of advertising in this classified department are eight cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other reference with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease or state exact condition, or furnish certificate of inspection from authorized inspectors. Conditions should be stated to insure that buyer is fully informed.

WE PAY CEILING PRICES for wax, and remit the day the wax is received. Your wax made into medium brood foundation at 12 c per lb. The Hawley Honey Co., Iola, Kansas.

HONEY AND BEESWAX. HIGHEST PRICES PAID. MAIL SAMPLES, ADVISE QUANTITY. BRYANT AND COOKINHAM, LOS ANGELES, CALIFORNIA.

WANTED—Extracted honey, white or light amber, in 60's. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois.

HONEY WANTED—Small or large lots. Send sample and amount. Rocke Apiaries, Eureka, Illinois.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

CASH FOR YOUR WAX the day received. Write for quotations and shipping tags. Walter T. Kelley Co., Paducah, Kentucky.

ALL GRADES extracted honey wanted. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th Street. Detroit, Michigan.

CLOVER HONEY WANTED—Small or large lots. Send sample, state quantity, and how packed. Ellsworth A. Meineke, Arlington Heights, Illinois.

HONEY FOR SALE

WHITE CLOVER HONEY packed in 1 and 2 lb. glass. Labeled or unlabeled. Sample, 18c stamps. John Tideswell, 2711 North 63rd St., Omaha 4, Nebraska.

SUPPLIES

SAVE ON HONEY CONTAINERS IN MINNEAPOLIS. Pre-war quality tin and glass honey containers at pre-war prices. Friction top pails are back. Send for price list. Prompt shipments made from large stock of Lewis-Dadant bee supplies. Send list of needed supplies for quotation. TOP PRICES PAID FOR HONEY AND BEESWAX IN CASH OR TRADE. HONEY SALES COMPANY, 1806-08 No. Washington Avenue, Minneapolis 11, Minnesota.

Universal 8 pc. Tool Set $14.85; 10 pc. $19.85. Wrench set 6 pc. Boxend $7.85; Opened $9.85. Standard ½" 15 pc. Socket Set & case $29.85. Tractor ¾" 14 pc. Socket Set & Case $49.85. Immediate shipment--Clip ad. Mail check now. Universal Tool Co., 1527 Grand, ABJ, Kansas City, Missouri.

PORTER BEE ESCAPES are fast, reliable, labor savers. R & E. C. Porter, Lewistown, Illinois.

INSTANT SEVEN AND NINE FRAME SPACERS. Fast, accurate, indispensable. Fat combs, easy uncapping. Set does all supers $1.50 postpaid. SPECIFY SIZE. George Leys, 48 Drake Ave., New Rochelle, New York.

YOUR WAX WORKED into high quality medium brood foundation at 16c pound; 100 pound $12.00. Medium brood foundation for sale at 70c pound. Fred Peterson, Alden, Iowa.

WRITE FOR CATALOGUE. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

LARGE CASH SAVINGS can be made by letting us work your wax into either wired or plain foundation. Large independent factory manufacturing a complete line of bee supplies including extractors, etc. Selling direct saves you the agent's profit. Quick shipment from large stock. Large free catalogue explains everything. Walter T. Kelley Co., Paducah, Kentucky.

FOR SALE

300 two story colonies of bees with honey crop. Subject to inspection. Honey Lee Apiaries, Godfrey, Illinois.

FOR SALE—Special Opportunity—Complete package bee and honey business in the heart of the Sacramento Valley of Northern California. Over 3,000 colonies—all standard ten frame dovetail equipment, no junk, large warehouse and other buildings, equipped with modern extracting equipment, tanks, wax house, steam boiler. Two good trucks and attractive modern home on paved street. Everything first class and a fine established business showing a consistent profit over twenty years. Thos. C. Burleson, Box 239, Colusa, California.

FOR SALE—About 800 colonies bees in excellent locations, 1200 nuc boxes, frames, etc. Plenty of honey for winter. Forty-two model truck and other items. Certificate of inspection furnished. Write Box P. T., care American Bee Journal.

ROOT four-frame multiple reversing 29 inch power extractor. Excellent condition, new base bearing, $70.00 f. o. b., or best offer ten days. L. S. Wells, Story City, Iowa.

55 colonies 10-fr. hives with two shallow supers. No disease. With or without fall crop. Some additional supers, all factory made. Harold L. Nebel, High Hill, Mo.

Due to death of my husband I have for immediate sale 78 hives of bees. These bees are free of disease. Mrs. E. A. Morris, Box 50, Brookfield, Mo.

FOR SALE OR RENT—A part of my 1000 colonies of bees because of other interests. C. McReynolds, Clearbrook, Minnesota.

FOR SALE—One 300 gal. settling tank complete with cover and honey gate. Lester G. Lewis, Hoopeston, Illinois.

300 eight-frame colonies of bees in excellent condition, located in Oregon's alfalfa and clover area. Good honey crops and good white honey. Close to package bee locations. Room for expansion. Health certificate furnished. Price $3,600.00. Address BOX ADW, care American Bee Journal.

NINE HUNDRED ten-frame colonies, no disease, no poison. Good grade white honey flowers. H. Wedgeworth, Box 383, Florence, Arizona.

FOR SALE—From 1 to 250 stands of bees with fine crop of honey on. Shallow supers for extracting. Will sell part or all. Can stay on good location. I. C. Evans, 1037 W. Marietta, Decatur, Illinois.

FOR SALE—20-frame Simplicity extractor with extras. A-1 condition, $100.00. Homer Blackford, Marion, Iowa.

FOR SALE—1½ horsepower Dutton flueless boiler complete with injector and gauge. In good condition. Price $75.00. Riverwood Apiaries, Robert E. Denny, Roseau, Minn.

FOR SALE—1500 2-story 10-frame colonies strong hives in very good condition. Located near Klamath Falls, Oregon, and Tule Lake, California. Can be moved to spring location for early packages. Also 1600, 8 and 10 frame located in Sacramento District. You more than get your money back in the first part of the spring from packages. We can move bees within two hundred miles from either location. Inspector's certificate furnished. George J. Triphon, 505 Blackwood St., North Sacramento, California.

NEW sixty pound cans in bulk and new sixty pound cartons in flat. Pre-war material. Make offer f. o. b. Roseau, Minnesota.
C. D. Hollister, Aitkin, Minnesota.

FOR SALE—Beekeeper's Hoist $25.00, frt. prepaid in states. Turner Mfg. Co., Corning, Iowa.

FOR SALE—Lewis-Dadant bee supplies. Wanted—extracted honey. A. H. Harris, Authorized Dealer, Rt. 1, Jackson, Tenn.

COMPLETE fully equipped outfit of 1500 hives, nuclei, extractor, tanks and established package and honey production in central and northern California. Al Winn, Rt. 1, Box 729A, Petaluma, California.

WANTED

WANTED—One 20 or 21 fr. honey extractor, good condition. Walter Stubbs, Soperton, Wisconsin.

WANTED for experimental purposes—One Cyprian queen. James O'Connell, 618 Pleasant Street, Worcester, Mass.

WANTED—Approximately 100 clean colonies with desirable package bee location. Ed. Trimble, Warroad, Minnesota.

WILL LEASE my 200 colonies and all extracting equipment. No disease. Leasee may obtain work at factory here at good wages when not working the bees. Great opportunity for good man. Would sell. Walter McKinley, George, Iowa.

POSITIONS AND HELP WANTED

Good man and wife to operate twenty-acre farm. Middle aged preferred. Residence all modern. Must be able to drive a car. I keep from 150 to 200 colonies of bees which is the business part of the place. A fine permanent home for the right man. Can buy if he wants to. Write for particulars. Better come and see me. Lee Horning, Morrison, Illinois.

WANTED—Discharged service man for partner. Must be experienced. Large apiaries. Box 123, care American Bee Journal.

SEEDS AND TREES

FOR SALE—Sainfoin seed. Over 10 lbs., 55c per lb. Less, 75c per lb., not postpaid. Perennial legume, soil builder, hay crop and honey plant. R. W. Brimhall, Pleasant Grove, Utah.

MISCELLANEOUS

I SELL best bee-hunting outfit. Grover. Bristol, Vermont.

Dry Skim Milk 35 cents a pound; 5 lbs. $1.25. Brewer's yeast 40 cents a pound; 5 lbs. $1.50. Soy flour expeller, 10 lbs. $1.40. F. O. B., Bainbridge, N. Y. Write for prices in larger units. M. Y. S. Company, Bainbridge, New York.

DISCHARGED SERVICEMEN—If you are a veteran of World War II and desire information on beekeeping as an occupation, write: Veterans Rehabilitation Committee, National Federation of State Beekeepers Associations, Rt. 5, Box 181, Lansing, Mich.

RANCH MAGAZINE—Do you find it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any magazine published. Subscription $1.50. Hotel Cactus, San Angelo, Texas.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents, stamps. Membership of the Club, including subscription to the paper 10/6. The Apis Club, The Way's End, Foxton, England.

DIFFERENT, that's all. Written and published for the instruction of beekeepers, contains breezy entertaining beekeeping comment each month. One year, $1.00; two years, $1.50. Sample 3 cents stamp. Beekeepers Item, San Antonio, Texas.

RESTRICTIONS LIFTED ON USE OF DDT

As of August 1, previous restrictions on the use of DDT are greatly liberalized. Heretofore, use of DDT was restricted solely to the armed forces or for experiment. The U.S.D.A. will not require DDT for use unless the crops or animals to be protected are an important part of the food program and no other effective material is available; or unless its use is recommended by the Bureau of Entomology or a qualified state official. The danger of poisoning bees, or upsetting the biological complex must not be such as to create a hazard in any use of this new material.

HONEY WANTED

A can or a carload.
Top prices paid.
Will furnish 60-lb. cans if desired.

C. W. AEPPLER CO. : Oconomowoc, Wisconsin

THE POSTSCRIPT

An interesting account of the honey plants in a Utah desert comes from Lynn Reynolds, of Virgin, Utah. He mentions the arrow-wood, from which the Indians secured shafts for their arrows, as blooming over a long period. Baccharis or mule-fat, tamarix and filaree are among the many plants offering minor honeyflows. A series of such minor sources offer bee pasture through a long season from May till fall.

— V —

Although John E. Johnson, of Verona, Missouri, is nearing 79 he has an extensive honey plant garden in which he finds great satisfaction. It is no new hobby with him since he first became interested more than fifty years ago when A. I. Root was so enthusiastic over figwort and Chapman Honey Plant and when he was planting his basswood grove. For several years Root had much to say in Gleanings about bee pasture.

— V —

Johnson writes that among annuals, borage is far ahead of others. It comes up quickly and begins blooming within a few weeks and lasts over a long period. It is easy to grow and always humming with bees all day long. He plants his potatoes early with borage between the rows to shade the ground in late summer after the potato vines have matured. He thus saves the tubers from sunburn and rot and gets some good bee pasture at the same time.

— V —

Johnson mentions the fact that Baltimore orioles are visiting his anise-hyssop plants. This reminds me that a flock of goldfinches, which the neighbors call "Wild Canaries," are almost constantly to be seen in our bed of anise-hyssop. The orioles are probably searching for insects, but the finches are seed eaters and apparently find a ready food supply here which is much to their liking. It would be worth while growing the plants if only to bring these beautiful little birds.

— V —

Some of our correspondents report great disappointment because the bees they bought in packages last spring were headed by virgin queens which proved to be drone layers. Such a package is likely to prove nearly a total loss to the buyer since, even if replacement is made, so much time is lost that the bees are so reduced in numbers as to be of little value.

A Michigan reader writes that he is disappointed in the Wagner pea because there are so few blossoms in the second year, although it is a solid mass of vines. It seems that we all have made the same mistake in planting the Wagner pea too thick. The plant is slow in getting established, but after the third season it makes very rank growth and needs plenty of room. The agronomist at Western Washington Experiment Station says that for hay or pasture the plants should be drilled thinly in rows two feet apart, but for seed production spacing of plants as much as six feet apart is not too far.

— V —

This is the seventh season with Wagner pea in our test plots and we are still learning more about it. The seed coat is very hard and needs to be scarified to germinate evenly. The plant grows slowly the first two years but after that makes a great production and apparently will last for a lifetime. It blooms more freely after three or four years, but seeds poorly when crowded. It seems well suited to poor soils where alfalfa and the clovers do poorly or refuse to grow.

— V —

Prof. Arthur Schwarting, of the Nebraska College of Pharmacy, is processing both mountain mint and wood mint from our test garden in an effort to discover whether they contain any element of commercial value which will justify their cultivation. Both are very attractive to the bees but they bloom at different times. Wood mint blooms during the month of June while mountain mint comes into flower in late July and blooms most of the month of August.

— V —

The growing of safflower has been launched as a commercial project in Nebraska. Judging from the way the bees work the flowers in the test garden and from the reports from California, Nebraska beekeepers are likely to find a new source of bee pasture in the vicinity of the safflower fields. The plant is grown as a source of drying oil much used in the paint and varnish trade.

— V —

When the National Honey Plant Committee met here in July, it set the pattern for a new kind of conference. Specialists in horticulture, agronomy and soil conservation met with the committee to discuss the one thing of common interest to all: the part which the honeybee plays in pollination. There is much anxiety because of the limited amount of seed of the legumes which is available to meet the very heavy demand for conversion of agriculture to a peace-time basis. Each group learned of the problems confronting the others. More meetings of this kind in other regions are highly desirable and promise to be profitable.

— V —

With the close of the honeyflow from the clovers on August first, our hive on scales weighed 673 pounds. There had been a net gain of 446 pounds since June first. The bees are in the big Dadant hives and all colonies in good condition had filled from six to ten supers. We seldom get much fall flow here, but in a wet season like this has been, we sometimes get a super of honey from heartsease. Whether or not we get that, 1945 has been one of the best years in this locality in the past half century. When such a crop comes the beekeeper is likely to feel enthusiastic and be inclined to enlarge his operations.

— V —

At Atlantic, Iowa, we had five good rains and several light showers in the month of July with more than normal precipitation for the period. At Hamilton, Illinois, three hundred miles farther east, the month of July was dry with no rain to amount to anything. Why this unequal distribution of moisture should occur in a region of such uniform appearance is hard to understand. It seems that the uncertainties of the honeyflow are about equal to the uncertainties of the weather.

— V —

The blue lupine is a new cover crop coming into use in the South. It is a legume which is rapidly growing in favor in the peanut growing sections. The lupines as a group are not often reported as the source of honey although there are conflicting opinions as to their value for bee pasture. They do yield pollen in sufficient abundance to attract the bees. The acreage is increasing so rapidly in the Southeast that there should be no difficulty in determining their value to the beekeeper and we would like to hear from beemen who are within reach of fields of this crop.

— V —

We expect to return to Hamilton, Illinois, for the winter months before the end of September. This has been a very interesting summer in the test garden. The weather has been cool and moist and in great contrast to the hot and dry summers of recent years.

FRANK C. PELLETT.

Leather Colored Italians

It's time to think of next season, so be sure to remember that our bees are real honey getters.

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NEVADA CITY, CALIFORNIA

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Italian Queens
90c each
—any quantity
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HELLO FOLKS!
HERE WE ARE AGAIN
STEVENSON'S LINE-BRED GOLDENS

To tell you our queens are available. We are sure you'll like us for we are really good. Prices: $1.25 ea; 50 to 100, $1.10; 100 up $1.00.

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"MAGNOLIA STATE" Strain Italians

find favor in many sections of the Western Hemisphere, from Argentina, South America to British Columbia, Canada and from California to Maine.

Reports of success and satisfaction with both our stock and our service are very much alike, and gratifying to us. If you have never tried our queens or package bees, you owe it to yourself to do so. Don't let a single colony go into winter with an old worn out queen; it is sure to come out queenless or worthless next spring.

There is much satisfaction in working with Pure, Gentle, and Productive stock of any kind, and this holds true with the bees.

PRICES: 1-24, $1.10; 25-99, $1.00; and $90.00 PER 100.

JENSEN'S APIARIES :: Macon, Miss.
THE HOME OF "MAGNOLIA STATE" STRAIN 3-BANDED ITALIANS

Now, is the time

to plan for late summer and early fall requeening.

Daughters of stock bred for resistance to A. F. B. are a real help in the fight to control disease. Include the use of this stock in your improved management for honey production.

Get daughters from improved parentage, produced under superior conditions, and from stock which is checked for performance.

Write for shipping dates

Prices:

1-9 $1.50; 10-49, $1.40; 50-99, $1.30; 100 up, $1.25

A SUPPLY OF D. R. QUEENS NOW AVAILABLE.

IOWA BEEKEEPERS ASSOCIATION
State House, Des Moines, 19, Iowa

QUEENS QUEENS QUEENS

Fall Requeening Pays. Use Garon's First Quality Queens

Progeny-Test 3-Banded Italian Strain

Also Mraz's and Other Reliable Breeders' Strain of High Quality Daughters of Stock Bred for Resistance. Health Certificate on All Shipments.

Prices: 1-9 at 90c; 10-24 at 85c; 25-99 at 75c; 100 and up 70c

No extra charge for clipping queens

GARON BEE COMPANY Telephone 8614
TELEGRAMS, WESTERN UNION DONALDSONVILLE, LA.

KELLEY—"The Bee Man"

TIN PAILS

We again have in stock 5 and 10 lb. pails with bails for quick shipment from Paducah.

Carton 50 five-lb. pails, wt. 26 lbs, price $3.50

Carton 50 ten-lb. pails, wt. 40 lbs., price $5.00

Carton 16 sixty-lb. cans (2½ in. opening), wt. 54 lbs., price $5.40

WALTER T. KELLEY CO. : Paducah, Kentucky

REQUEEN NOW

If you requeen now with our superior queens reared direct from the egg your colonies will go through the winter strong in bees and build up early in the spring and give you a bumper crop. We can make prompt shipments in lots up to fifty each. If you try our queens you will become a regular customer.

Price for the season for untested queens is

$1.50 EACH, ANY NUMBER

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JAY SMITH & SON

ROUTE 2 FORT MYERS, FLORIDA

HONEY CONTAINERS

We have a good stock of glass jars in all sizes, also 5-lb. and 10-lb. tin pails with wire bails.

Write for prices stating the quantity you intend to purchase.

A. H. RUSCH & SON CO.

REEDSVILLE, WISCONSIN

NOTICE

Package bee buyers are having their orders booked for 1946. Dates are being taken up fast. Have you placed your order yet? If not, better make your plans before it is too late. There is still time to requeen colonies needing fresh queens, so get all colonies requeened this fall with good ones.

PRICES: 1-24, $1.00; 25-99, 95c; 100 up, 90c each.

Bessonet Bee Company : Donaldsonville, La.

SUNKIST BEES AND QUEENS

Another season is passed and we filled all orders as and when wanted. This means our customers received satisfaction. We are getting ready for next season now so as to maintain these satisfactory contacts. We are accepting orders for 1946 for packages and queens, subject to prices later in the year. We have three banded Italians, offer health certificate and guarantee live delivery.

SUNKIST BEE COMPANY, Route 2, Box 9, Houma, La.

ITALIAN QUEENS

Three-Banded, northern bred for business, Safe arrival. 48th breeding season. 1 for $1.00; 6 for $5.50; 12 for $11.00. Select $1.25 each.

I. F. MILLER

ROUTE 3 WARREN, PA.

BEE STINGS

Pheno-Isolin instantly stops the pain and quickly reduces the swelling. Results guaranteed. 4-oz. bottle $1.00 postpaid.

THE FORCE CO.

SCRANTON 10, PENNSYLVANIA

FOR SALE

1000 colonies bees with locations $12.00 each, Good truck and Lifetime extractor. October and November Queens

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AMERICAN PIGEON JOURNAL

Dept. B Warrenton, Mo.

Comb Honey Wanted

Advise the quantity, grade, size section, and how packed.

Frank H. Hauck

P. O. Box 84, Kew Gardens, N. Y.

Bank references furnished on request

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Canadian beekeepers too have wartime problems. If you are interested in bee activities "North of the Border," send us your subscription NOW. We will see that you receive each monthly copy regularly.

Subscription price, $1.25 per year in U. S. A.

CANADIAN BEE JOURNAL

OSHAWA, ONTARIO

1896 — 50 — 1945

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Our Golden Anniversary

The year 1945 marks the 50th year of continued service in the manufacture of beekeepers supplies.

With this wealth of knowledge and experience we feel we are in better position than ever to give our customers that valued quality and service that has meant so much to them in the past 50 years.

In order to assure yourself of that continued service we suggest you order early this year. Although we have an ample supply of HONEY SECTIONS, HIVE BODIES, SUPERS AND FRAMES at present, from all indications the year 1945 will make even greater demands on the industry.

Write for our SPECIAL PRICE on number two (2) beeway sections (4¼x4¼x1⅞); also ask for our new 1945 price list of supplies now on hand and available to our customers.

MARSHFIELD MFG. CO.
MARSHFIELD, WISCONSIN

ROOT Service
From
Chicago

Have we not well met the test

in furnishing bee supplies wanted this season? Many of our customers have received all or most items of supplies ordered from us.

We will do as well for you on your late season and fall needs. Try us for the containers you want. We have ready for you—

FIVE AND TEN POUND TIN PAILS.
SIXTY-POUND CANS WITH 2½ INCH CAPS.
FIVE AND TEN POUND GLASS JARS.
ECONOMY JARS, ALL SIZES.
COMB HONEY SHIPPING CASES
SECTION CARTONS AND WRAPPERS

We offer best makes with good prices and ready service. Ask for our container list.

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Our Labels meet these requirements at very reasonable prices

Send for samples.

American Bee Journal
Hamilton, Illinois

HONEY PRODUCERS

At this time, August 13th, A. M., we await word that Japan has surrendered. We all hope that this will come within the day, surely within the week.

What will the end of war mean to honey men? Will you enlarge your holdings or only replace your winter loss? In either case now is the time to arrange for your

PACKAGE BEES

The large buyers are now placing orders for spring delivery. Most every day orders are received for large lots of packages. Naturally they are requesting the choicest shipping dates. As daily shipments are limited in quantity it is to your advantage to order early. We will not book more packages for a day's shipment than experience shows we can deliver. Can we count you in this forward-looking, progressive lot of producers?

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BOX 133 MOULTRIE, GEORGIA

Planning for the Future

Right now is the best time to plan for your apiary of tomorrow. Every beekeeper has to start as a beginner, some learning the hard way. Today there is available a large amount of helpful information. However, conditions in various regions make hive management different. Some of the beekeepers operating a large number of colonies use methods that would result in failure for the inexperienced person.

SIZE OF APIARY

The most profitable number of colonies for the beginner to operate is three to five colonies. Colony management is made easier of weak colonies can be united and when certain colonies gain in strength and stores the beekeeper has extra equipment that can be shifted until new supplies can be secured. The local flora of nectar secreting plants is usually sufficient to take care of three to five colonies. This number of colonies is also enough to warrant the purchase of a

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A VALUABLE BEGINNER'S BOOK

STARTING RIGHT WITH BEES

ONLY 50 CENTS POSTPAID

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